JULY, 1880.



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# AMERICAN FARMER.

# PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

Vol. IX.-No. 7.]

JULY, 1880.

NEW SERIES.

Requisites for Successful Farming.

Messrs. Editors American Farmer:

In engaging in farming as a pursuit or occupation, the farmer has two very important objects in view: the first is to make a living by it, to make it remunerative; and the other is to make it attractive or a source of pleasure. Very many requisites are necessary for the attainment of

thess two objects.

The first requisite is industry. An indolent man will never succeed at anything; he is unfit for anything. Nothing valuable can be accomplished without industry, energy and enterprise; and these prerequisites are particularly needed in agricultural pursuits. There is no occupation that involves more labor and attention than that of the farmer, although it is not so arduous as some others. Truly the diligent farmer meets fully the requirements of the Divine command: "to eat bread in the sweat of thy face." however necessary and valuable industry and energy may be, they very often fail in accomplishing much for the want of the next requisites, which are practical sense and good judgment. These are always necessary to give shape, character and direction to industry and enterprise.

There is no pursuit that requires more sound gugment, more practical good sense, and more varied experience, than the farmer's. Almost every thing depends upon circumstances, conditions and contingencies, which vary so often and so much that the farmer cannot confine himself to any invariable practice or programme. He must be thoroughly practical, and always prepared to adopt his practice to these changing conditions. His true policy is to read and study, and treasure up all the lessons of experience and observation, and then apply them according to his means and circumstances.

The main reason why "book farming," so called, has always been unpopular, is that novices and inexperienced farmers are constantly attempting to practice theories taught in the books, without the variation and modification which contingencies often make necessary,

and hence fail.

The next requisite that I will mention is personal attention. No man can find another who will attend to his business as well as himself.

It is personal interest that makes the difference, and personal interest is a great incentive to human action. It sharpens the wits and stimulates action in a wonderful manner. It is neither the duty nor to the interest of the practical farmer, if his operations be extended, to convert himself into a common laborer, and work constantly with his own hands, though he should be prepared to lend a helping hand occasionally, when necessary. It is more particularly his province and duty to superintend and direct; to keep his laborers up to the work, and do the thinking and planning. This is more particularly necessary where Negro labor is employed.

The Negro is the best and cheapest laborer that we here in the South can get, but to make his labor pay he requires constant attention and direction. He is a mere machine, and scarcely ever exercises the least judgment or discretion in the performance of his work. Personal at-tention is necessary and valuable for many other reasons. It enables the farmer to have more work done, and better done; it enables him to avoid troubles and difficulties with his laborers, and it enables him to be just, kind and indulgent to them, when it is proper to do so; and this he should always do when the laborer has discharged his duty faithfully. Very few persons are sufficient judges of farm work to determine whether the laborer has done his duty whilst the master is spending his time at the cross-road store; and it very often happens that the poor laborer is treated very unjustly and very harshly in consequence.

Time and space would fail me if I were to attempt to enumerate the varied instances in which these valuable qualifications may be profitably exercised on the farm. The diligent farmer will find constant occasion for their profitable exercise. Indeed there is scarcely an operation on the farm where they are not necessary. I come now to the consideration of the second great object which the farmer has in view; and that is to make his occupation a source of pleasure.

It is a great thing to have your heart in your work; to have your interest enlisted, and to find your happiness in it. With all this motive power in action there is no telling what a man

In order to have all these agencies can do. enlisted, things must be made attractive. Order, system and discipline must be established and maintained. Good teams must be kept. The best agricultural implements must be used. The farm buildings must be tastily and conveniently located and arranged. There must be good gates and good fences, and good roads. The best breeds of domestic animals must be procured, and good pasturage in summer and good shelter in winter must be provided for them, with a due supply of food. You should keep a good garden, a good orchard and a small vineyard. The homestead must be beautified and made attractive with flowers and shrubbery, and love, harmony and hospitality preside over the household and the family circle.

In supplying these varied requisites, you should the sight of the "main chance," which is not lose sight of the "main chance, to secure a paying crop, for it is in this that the diligent and thrifty farmer finds his sure reward. There is nothing that so gladdens the heart of the farmer as the rich golden harvest and the

well-filled granary.

And more than all, and above all, you should not forget your obligation to and your dependence upon your beneficent Creator-the bountiful giver of all good, and the source of all true happiness; for it is He that gives the fruitful soil, the genial seasons, and "the early rain and

the latter rain.

A sure way to enlist your interest and get your heart in your work, is to get into the habit of giving it your constant personal attention. Once get well into this habit, and you will come to feel that nothing can be done as it should be without your presence. A strong disposition to be always present will take hold of you, and you will not be satisfied whilst in the neglect of your business. When this kind of feeling and sentiment has been once reached, the work of the farm will no longer be an irksome, distasteful task. It will become an agreeable, profitable employment,—imparting health, energy and interest. The wheels of business will run smoothly, and all the operations of the farm will receive their timely and appropriate attention. But this course of action should not be carried

too far. They should not be allowed to monopolize your entire time and attention. Other duties and other obligations claim their share. These are your duties and obligations as a good citizen and a member of society. You must help to make the good neighborhood; and the kingly duties of friendship and affection must be strengthened and cultivated. Your health will demand occasional relaxation and recreation. The bow must be unstrung, else it will lose its elasticity. You must cultivate a public spirit; make yourself a useful member of society, and do all the good you can to others.

And herein lies one of the surest and most substantial sources of happiness to be found in this life,-doing good to others and leading a useful life. Happiness-happiness here and happiness hereafter—is the great object after which all are striving. The Bible teaches us, and the testimony and experience of the wisest and best confirm it, that the surest way to promote our own happiness is to do everything in

your power to promote the happiness and interest of others. The selfish and sensual man is never happy. You may clothe him in purple and fine linen; you may fill his coffers with gold and his barns to overflowing, but so long as selfishness is the ruling principle of his life and the main-spring of his actions, he will be a miserable, unhappy man. How much higher in the scale of moral worth is the benevolent, public-spirited man, whose heart beats in unison and harmony with his fellow-man; who can weep with those who weep and rejoice with those who rejoice, and whose right hand dispenses charity! How much higher is such a character than he who lives and breathes for self WM. HOLMAN.

Cumberland Co., Va.

# Experiments in Thin Seeding of Wheat.

[The following paper was prepared for the Farmers' Convention of Baltimore County in February, but from want of time was not read, and has been furnished for publication in the American Farmer.]

The lands in cultivation, purchased by me in 1871, were rough, scraggy and barren, covered with a growth of small and large pines. My first object was to remove the rough exterior (pines, bushes, grubs and stones, which all lands are heir to more or less.) Next I plowed deep and applied one hundred and twenty to one hundred and forty bushels of oyster-shell lime to the acre, according to thinness of soil,-new soil having been shaded requiring less lime than old soil not shaded. Then I cultivated in corn, not oats, as some farmers would,-as oats are injurious to any soil. The following spring I plowed deep the corn stubble; let it lie until from the first to middle of August, then cross-plowed ready for seeding. This cross-plowing kills all filth of every kind and leaves the ground in better condition for grass.

By the middle of September I harrowed and cross-harrowed well, then drilled my seed wheat at rate of six pecks per acre, sowing at same time timothy seed from eight to twelve quarts per acre, followed by sowing five to six quarts of clover seed per acre the following spring. This secured me a solid foundation for improving my lands, which process I have followed up to the present year, (1880,) having all my lands in good sod, yielding two tons of good hay to

the acre.

The yield of wheat by this mode of farming, although begun on a poor barren pine soil, was from eighteen to twenty bushels of good wheat, and the succeeding two years two tons of mixed hay per acre. When after two years in sod I plowed up again the coming autumn, limed again with eighty to one hundred bushels of same kind of lime, (oyster-shell,) planted in corn, worked well. This gave me from ten to twelve barrels of good corn per acre.

I then plowed this corn stubble up the following spring; prepared for wheat the following

fall as before stated.

This brought me to the fall of 1875, when I sowed again six pecks per acre; reset in timothy by sowing from twelve to sixteen quarts per acre, (no clover,) after which I realized the full

results of my hard labor.

Now this prepared us for the final and successful results which I come to in 1876, namely: finding out that we could produce a larger yield of wheat from a smaller quantity sown than the old quantity, viz: six pecks per acre with drill, which was the amount I formerly sowed as first

referred to.

As to the increased yield of wheat per acre from a small quantity sown, it was proven to me by accident, viz: by the setting in motion of a new Hagerstown drill I had put to work, intending to set the seed part of the drill for sowing five pecks of wheat per acre. I placed the lever bar on the wrong side of the centre, or bushel notch, which made it sow only three pecks per acre instead of five pecks, which mistake I did not discover until I had sown three-fourths of my field. This being a particular piece of ground I had selected to sow with a new lot of wheat (amber) I had just purchased for seed, I discovered my seed going too slow. Upon examination of drill I found the mistake as above mentioned, viz: wheat gauge set to wrong notch; and having only sown three pecks per acre, I immediately changed the lever bar upon the other side of bushel notch, as I first intended, and sowed balance of seed with five pecks per acre, and noticed result. Having sown it about middle of September, the three pecks came up looking very thin to what the five pecks did, and I should have been discouraged but for the fact of having read some years previously an account in an extract from an English agricultural journal where in England they had pro-duced large yields of wheat per acre by sowing, or planting, if we may so call it, one grain to the square foot, or, in other words, one foot apart,—making as high as eighty bushels of wheat per acre.

As I stated, my thin sowing looked very unpromising at first; but the next spring, as the warm rains and hot sun began to have their effect, it was not long before I could see it thickening up, with strong branches shooting out fifteen to twenty stalks from one grain, while the five pecks per acre sowing did not contain more than half as many branches; and when ready to harvest it stood equally as thick upon the ground as where I had sown the five pecks, with all the branches well up and heads much larger. When harvested the yield was thirty-six bushels of good wheat per acre for the three-peck sowing and only thirty-one bushels for the

five-peck sowing.

This being conclusive to my mind, that the smaller quantity we sow per acre the larger return we will realize, provided the ground is

strong enough.

It therefore caused me to attempt a similar trial in earnest to a greater extent, so far as I had better and stronger ground,—as the thinner you sow the better it requires the ground to be. Consequently the next year (1876) my principal crop was sown with only three pecks per acre, of amber wheat, in corn ground, plowed, &c., as

first described, with an application of four hundred pounds of Slingluff's raw bone per acre (this standard fertilizer I prefer to all others, after having tried several kinds.) My return from this test of three pecks per acre was thirty-eight bushels per acre.

But being disposed to test my experience still further the coming season, (fall of 1877,) I prepared one field of sixteen acres, and sowed it

with three pecks per acre.

I had about four acres in another lot; this was clover sod, plowed late in spring, top-dressed with manure and cross-plowed in August, sowed at same time as the other, about middle of September, with only two pecks per acre and five hundred pounds of Slingluff's bone per acre—both pieces put in with Bickford & Huffman's drill. I also had another small piece in my truck patch—a little better piece of ground than the above, containing about one-twelfth of an acre, upon which I sowed at the rate of only one peck per acre, with same quantity of fertilizer. This was put in with a Hagerstown drill, the Bickford & Huffman drill not sowing a less quantity than two pecks to the acre.

Now as to results:

Lot Nos. Acres. Bus. made. Bus. per acre.

1 16 568 35½
2 4 154 38½
3 1-12 4½ 54

Or, in other words, a table showing bushels harvested to one bushel's sowing:

Lot Nos. Quantity sown. Bus. per acre. Bus. for 1 sown.

1 3 35 1 47.50

2 9 3 38 777

3 1 54 216

This first sowing of sixteen acres with three pecks stood beautiful and regular all over the field; but heads were short and of ordinary length.

The second lot sown, of four acres, with two pecks per acre, was equally as thick a growth upon the ground, but wallowed considerably in places, which affected the yield of this piece somewhat. The heads of this wheat averaged

from four to five inches in length.

The third lot of one-twelfth of an acre, at rate of only one peck per acre, stood upon the ground from four, five and six inches apart; but sometimes three or four grains would drop together, which was an objection to thin sowing. Here I would remark, there should be constructed a drill especially adapted to thin sowing of wheat, so as to deposit but a single grain of wheat in a place, from four to six inches apart.

I could stand some distance from this wheat and count the single growths of grain near the bottom; but when viewing the whole piece over the top it looked as thick as either of the other two pieces, with much longer and larger heads, averaging about five inches in length. Some of this wheat put up as many as thirty to thirty-five branches from one grain, and upon an average over the whole piece twelve to fifteen

stalks from a single grain.

Although the yield from these experiments was large, yet I wish here to call attention to a serious fact in the result of growth to this amber wheat this year, (1877.) which occurred for the

first time, though I had been sowing it two years previous, namely: black or smutty heads. From an examination made by myself and neighbors we put the loss at one-fourth of yield in the whole crop. By a test also made by the gentleman who thrashed my crop, (Mr. Henry Klogh,) made in the following way: by pulling a large handful from out of the rick containing fity-four stalks. Upon thirty-six stalks there were good sound heads; the balance, eighteen stalks, were black, smutty heads,—thus showing a large loss per acre in the yield as stated in preceding tables.

This blight has affected my crop every year since, including last year,—this being a serious and only objection to the amber wheat. The cause of these smutty heads I have never been

able to discover.

In conclusion, I am unbesitatingly in favor of thin seeding of wheat; but the ground must be good and thoroughly worked, as in the case of the third lot, where I sowed at rate of one peck per acre,—it having been cultivated three or four years as a truck or vegetable garden, and consequently the ground had been well worked

and highly improved.

I continued my seeding with three pecks of wheat to the acre; but as my lands improve I shall reduce to two pecks per acre. Then when brought to that high state of cultivation in which all lands should be to make them pay, (more particular now than in former years, owing to the great competition we farmers have to contend with against the Western production of all kinds,) followed by setting in grass, my labor will be less, my crops larger, my profits greater; and my satisfaction at results will commend a consideration of this mode of farming to all tillers of the soil. Yours, &c.,

C. HOWARD SHIPLEY.

Baltimore Co., Md., February, 1880.

#### The Best Time to Sell Wheat.

Messrs. Editors American Farmer :

The price of wheat has fluctuated so much the last few years, that "when is the best time to sell" has become a question of great importance to all farmers engaged in raising wheat For their benefit, I have gathered from a book kept here for many years the average price paid per month for fifteen years; not a calendar year, but what we call a milling year,—from harvest to harvest. By this means we can average the price received for any given crop. At the bottom of the table will be found the average price per month for fifteen years. I would also append the estimated loss from harvest to spring, but I have mislaid it. Perhaps the editors can give it; if so it will furnish a valuable table for all interested in the sale of wheat. The price paid here is from five to eight cents less than in Baltimore.

Respectfully yours, W. E. MANAKEE.

Burnt Mills, Md., June 16, 1880.

Average per month for 15 years	1845-46 1847-47 1847-47 1849-70 1871-72 1871-73 1871-73 1871-73 1873-74 1873-76 1873-77 1873-77 1873-77 1873-77	YEARS.
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#### Our French Letter.

#### Crop Prospects.

Mesers. Editors American Farmer:

To believe one party in France, agriculture would be in decadence; while another asserts its condition to be flourishing. This divergence of opinion is due in a great measure to the wide variations of climate, and consequently of in-terests. In the north the wheat crop is not satisfactory; it has all the appearance of suffering that it presented on the departure of winter. In the south it is vigorous and splendid. In Algeria the harvest will commence under auspicious conditions in the course of ten days. Suffering or prosperity is, then, a matter of latitude and longitude-a question of soil, climate and system of cultivation. Indeed, in some cases the unfavorable reports have been exaggerated. Pastoral are more prosperous than grain regions. Small farmers are not going down the hill; and the metayage system, where landlord and tenant cooperate and share profits, has ameliorated both parties.

The conclusion to draw from the conflicting reports as to agricultural prospects is one of hopefulness. Farmers trust to make good this season much of the loss they experienced during recent years. Wheat-fields present many bald patches. Spring sowings have been effected under favorable conditions; but vegetation is rather backward, owing to cold winds. Fruit on the whole promises well. Some trees are expected to have more fruit than leaves. Frosts are still apprehended for vineyards.

The Phylloxera.

The government has published some sad statistics of the ravages of the phylloxera. At the commencement of 1877 there were 28 depart-

ments invaded by the vine-bug; 39 at the end of 1878, and 43 at the close of 1879. Before the invasion of the disease France had 5,371,282 acres under vines; of this total, 1,172,986 acres have been totally destroyed, or nearly one-fifth of the vineyards of France. There are about 800,000 acres attacked by the disease. Naturally those regions have most suffered where no efforts were made to check the ravages.—Autumnal submersion is the remedy most in favor; then replanting with American stocks; next sulphuret of carbon, and then sulpho-carbonates as preventives. Each remedy demands liberal manuring of the vine in spring. The first is now all but accepted as a perfect cure.

## The Acidity of Wines.

It is well known that wine does not inherit the same degree of acidity as the must from which it is derived; but at the second racking it possesses a degree of acidity which remains next to invariable. Some German chemists have been studying this subject; they have experimented with several chemical agents in the solubility of cream of tartar in water. The more a wine is alcoholic the less it is rich in tartaric acid and potash. Medium and common wines contain from 2 to 3 grammes of tartar per quart. Now the direct addition of tartaric acid to wine feebly diminishes the solubility of tartar, while acetic acid augments it; but malic acid is the best solvent. The acidity of wine is not due to tartaric acid, but to malic acid, tartrate of potash, tannic, succinic and acetic acids. In its normal state wine only contains from 1 to 1 per 1,000 of acetic acid. When double that quantity is present the wine acquires its peculiar sharp taste. Free tartaric acid is only found in unripe grapes, and the absence of this acid indicates complete maturity. The quantity of tartaric acid per quart of wine varies from 1 to 9 grammes; but the finest wines do not contain more than 2 or 3. The quantity of tannin diminishes with age; while the glycerine, on the contrary, augments.

#### Feeding Horses.

The omnibus and cab companies of Paris have chemists permanently employed studying the value of the rations given to their horses, and noting the variations in the composition of these rations as represented by their immediate principles. M. Graudean, who has been charged by the cab company to conduct the experiments, states that if the same rational or scientific methods for feeding horses were adopted in the army as by the public vehicle companies, the nutritive value of the food would be increased from 50 to 100 per cent. and the budget saved some millions a year.

Messrs. Pierre & Lemetayer have analyzed green rye, so much in favor for green feeding in the vicinity of Paris. When about 8 inches in height the dry matter increases at the rate of four-fold in a few weeks, and doubles this weight when coming into ear. However, it not the less at this stage contains 80 per cent. of water. They examined some ears of ripened grain in several localities and found them as empty of grains as if they had been threshed. This they attribute to the natural fondness

of the birds for the grain, as well as its being the first cereal which arrives at maturity.

#### ltems.

The best preventive of hydrophobia has proved, making the owners of mad dogs responsible for the injuries they commit; this is what the official proclamations recommend. In some parts of France, muzzling dogs is compulsory; in others it is prohibited.

Several agricultural societies have furnished farmers with a legally drawn-up form, by which they can, in making them sign, bind sellers of fertilizers to the consequences of selling spurious manures. When the latter arrives, the constable is to select a sample by hazard, seal it up in a bottle, and, enclosing it with the executed form, send it to the office of the local agricultural society for examination if necessary. The elements of fertilizers are commercially valued thus: organic azote, fr.1 per fb.; ammoniacal or nitric azote, fr.1 per fb.; soluble and assimilable phosphoric acid, fr.½; insoluble, fr.½; pure potash, fr.½ per fb.

In the lands of the south of France, where pines are reared for turpentine, trees covering a space of 150,000 acres have been destroyed by the late severe winter, and representing a cash value of fr.33,000.000.

The following are average prices of cereals per cwt.: Wheat, fr.15‡; rye, fr.11 1-5; barley, fr.11‡; oats, fr.11‡; buckwheat, fr.12; maize, fr.7; bran, fr.8 to 10; sugar, fr.28 to 37; butter, per fb., fr.2‡ to 4; Gruyere cheese, fr.74 to 85 per cwt. In one week 111 horses have been sold to the butcher from fr.55 to fr.150 each. The mean price, live weight, for oxen per fb., is 15 sous; veal, 22; sheep, 18; fat piga, 16; lean pigs, 13 sous. Eggs, from 50 to 92 frs. per 1,000. Lambs, from fr.12 to 26 each.

Paris, May 20.

#### Carp at the Capital.

A correspondent of a Northern journal writes thus about these fish at Washington:

I do not know of a more profitable and enjoyable way for a stranger in Washington to spend a morning than to visit Dr. Hessel at the carp ponds, near the monument grounds, containing, it is estimated, nearly half a million fish. In the first place, the distribution is now being made; 25,000 have already been sent away, and more are to follow in the next week or ten days, so those wishing them should apply at once to the United States Fish Commissioner. The two-year-olds, a foot long, weigh one and one-half to two pounds. Another year they will weigh six to seven pounds. In one of the smaller ponds some immense leather carp were seen, which will weigh fourteen pounds; they were brought from the Balkan Mountains, in Turkey, by Dr. Hessel, three years ago.

These fish attain a weight of twenty to forty, and even sixty pounds, and I am imformed that they will attain a larger growth in this country than in their own in the same time, as the growing season is some three months longer.

The fish stand a temperature of 90° Fahr., and require rather warm water to spawn.

There is a pond for this special purpose, a board partition being run across one side, and the shallow enclosure filled with water plants, among which the fish may hide. After the spawning has taken place, the fish are allowed to return to the deeper water, and the gate is replaced, as there is danger of the egss being destroyed by the fish themselves in seeking food. The eggs being agglutinated together in a mass, artificial spawning, as is practiced with the trout, is impossible. The fish would only be liable to injury, and it is better to let them manage it themselves. Some are nevertheless hatched artificially. The young carp are fed with a mash of corn-meal and flour, feeding boards about four feet square being sunk a foot below the surface of the pond for the purpose; they are fed once or twice a day, as is deemed necessary. The larger fish are fed upon hominy, though in the large ponds they are obliged to pick up their living. Five hundred fish to an acre of ground is the right proportion; more than that number will not thrive well. Dr. H. has seen three-year-old flab in Dr. H. has seen three-year-old fish in crowded ponds in Europe that were principally head, with a diminutive body running back a few inches; such stunted fish will never recover when placed in roomy ponds. The fish are very tame and will even feed from one's hand as pet chickens are wont to do, and teasing them by holding the bait toward them and withdrawing it upon approach is resented most spitefully.

The greatest enemies are turtles and snakes, and those about to establish carp ponds should keep a watchful eye over their ponds to keep away these intruders. A good healthy snapping-turtle has been known to clear a pond of fish, and then, led by its sense of smell, to follow them up hill againt the stream. Eels are also destructive to young fish. Carp hatched this season will make a growth of quarter to half a pound by the end of summer. When the growing season is over, and cold weather approaches, the carp gather in groups of fifty or one hundred, making cavities in the muddy ground, each of which is called a "kettle." Here they remain, with their heads together in the mud, the body raised, huddled in circles, and pass the winter in this condition, eating nothing. . The carp makes all its growth in a few warm months, so years are counted by summers. In the latitude of Washington the fish sometimes spawn twice a year, in May and September. The ponds are planted with a variety of water plants, among which may be named the eel-grass (Vallisneria The golden-eye, resembling the comspiralis.) mon gold fish in color, is another fine food-fish which is to be seen in the ponds. Examples were swimming about which would measure a foot in length. There are young tench also—the fish which can live in the mud after a pond has dried up-and other finny foreigners, that have come over to stay.

DESTROY THE Eggs of the tent caterpillar, which are to be found in small, closely-fitting rings or bands, near the ends of the smaller twigs, and may be cut away. Many insects har-bor beneath the loose bark of trees, and by scraping this off and washing the trunk and limbs with soft soap, much good may be done.

# The Army Worm.

This devastating insect made its advent during the past month in this and adjacent States; and although its ravages were not general, yet in many localities they have been very destructive to the crops of farmers within their range of travel. June, it appears, is the period for their natural appearance, and consequently all danger may, for this year, be over. But we must not omit to be on the alert for their reappearance hereafter, as there is no telling where they may be found marching on in their overwhelming course when they again make their advent. A communication to the Lancaster (Pa.) Farmer alludes to their appearance in that vicinity, and calls on the editor. Mr. Rathvon, who is an entomologist of much distinction, for information on the subject of its habits, history, &c. Mr. R. says he has known of its existence in this county for years on a very limited scale, and that "it will continue to exist so long as wheat, rye, barley, oats and grasses are grown. They have no special partiality for clover, (although they will eat it when they can get nothing bet-ter,) but the bladed cereals they are particularly fond of, and when they consume one field and have not finished their larval development, they will migrate, like a moving army, to another field, and from this habit is derived the name of army worm.'

#### HOW TO STAY AND DESTROY THEM.

"When a field becomes destructively infested although there are applications that would kill them-it perhaps would cost as much to exterminate them as an average wheat crop would be worth, and might also involve the entire destruction of the crop. But they can be prevented from passing from one field to another by running a deep furrow around the field, with its perpendicular side next to the field intended to be saved, up which perpendicular side they cannot well climb, for losing their hold they will fall back again to the bottom. Here they can be captured and destroyed. It has been recommended to scatter dry straw over them in this trench and then set it on fire and thus destroy them. Perhaps any other combustible material would answer as well as straw-for instance, coarse sawdust saturated with coal oil or gas tar.

THEIR DEVELOPMENT.

Fortunately, if the season is favorable and the grain ripens rapidly, their damage to it will thereby be limited; but more fortunately still, they usually complete their larval development within the month of June, and then go into the ground to pupate, and issue forth a moth about the middle of July. The sexes then pair, and the females deposit their eggs on the stubble of grass or grain, and those eggs remain there until the following season, for there is but one brood during the year. The young are so small when they first issue from the eggs that their presence is not observed, and therefore it is only when they become about half grown and their voracity has greatly increased that their presence becomes conspicuously manifest, and then people become astonished at their sudden appearance,

#### PRECAUTION TO BE ADOPTED.

Now, when a grain or grass field has been badly infested by the army worm, if everything is favorable to their development during the intervening season, it seems evident that their numbers may greatly increase in the fol-lowing year. Therefore it is recommended to burn off the stubble in the fall, or turn it deeply down with the plow.

## HABITS OF THE ARMY WORM.

These army worms belong to the great family of "cut worms;" and like all of that tribe, if you touch them or attempt to capture them they will immediately fall to the ground and curl themselves into a compact circle and remain in that condition for some time, and any attempt to straighten them out will be firmly resisted, even to the rupture of their bodies. The moths are generally called "owlet-moths," and belong to the family Noctuidae, or "Night-fliers," because they usually remain quiet or secreted during the day and fly abroad at night; if, therefore, luminous traps are set in the fields, after the crops are removed, millions of them may be captured.

#### HOW TO DESTROY THE MOTH.

A large and shallow tub or basin of water with a globe lamp in the center would constitute such a trap. If the farmer did not wish to burn off or turn down the stubble, on account of a prospective crop of grain or grass the following year, the trap would be the only thing to resort to, but might not be entirely effective, as some of the moths may deposit their eggs before they are trapped, or might roam off to some other part of the farm. An ordinary moist season, succeeding a mild winter, or a previous dry season, is usually considered favorable to the army worm's development.

#### THE ARMY WORM DESCRIBED.

The true army worm, when fully grown, is fully 15 inches in length, and is striped lengthwise with black, dull swarthy green, and yellowish lines, interlineated with marginal white hairlines. The head is light, or yellowish brown, and has two blackish bent lines on the face. It has sixteen feet-six small black ones in front, eight fleshy ones along the middle part and two at the hinder end. On the outsides of the eight intermediate feet are conspicuously a black spot on each. The body of the moth is stout, and it is nearly or quite two inches across the expanded wings. The front wings are of a dull or dirty yellowish color-variable, however, in intensity-faintly sprinkled with blackish dots. There is a single kidney-shaped spot, more conspicuous than any other spots, about the outer third of the front wings, from which the moth derives the specific name, unipuncta. The hind wings are partly transparent, with a smoky and purplish appearance; the whole, with other markings, not essential, except in a purely scientific description. The front and posterior parts of the body are assimilated in color to the wings.

ITS ENEMIES.

The army worm has several natural enemies which, no doubt, do much in lessening its numbers, and it may also be affected by weather contingencies; hence one season it may be very abundant, and then not noticeable again for many years. Hogs are very found of the larva and the pupa, and it is presumable that many are destroyed by birds, as it usually occurs about their hatching season.

Nearly a dozen species of insect parasites have been described as infesting it, conspicuous among which are six species of "cuckoo flies; and at least two species of "Tachina flies." Possibly many that go into the earth to pupate

never come forth again."

# Live Stock.

Overfat Sheep—Precautions against Dogs.

Messrs. Editors American Farmer:

The adaptability of Cotswold sheep to take on fat readily is a fact, and is one of the strongest arguments in their favor we can use. But there are many sheep-raisers and farmers who object to keeping them because "the ewes get too fat and will not breed."

Now, this is the best objection I ever heard, because the numbers can be increased to regu-late "too much fat;" and in increasing the numbers the capacity for adding to an already remunerative income is also increased. We have held to the theory heretofore, and still do, that live stock feed in proportion to their weight. But there are very general exceptions to the rule, to wit: unless stock is kept in good thrifty condition, a poor specimen will eat more than a fat one; and the rule is applicable only to well-fed

You can take a flock of common Western ewes of 100 lbs. carcass, and we will venture to say they will eat more than a well-cared-for flock of Cotswolds. They never seem to get enough, and will feed day and night, cold or hot. When the fat animal reposes under the shade, they may still be seen seeking what they can

devour.

We believe that ewes kept in ordinary condition will breed better and produce more lambs than when very fat. But when they have been tupped by the ram, get them as fat as you can, preparatory to raising better lambs, which cannot be done unless you have a good timothy and other grass sod to run on. Feed in winter on roots, oats and other fattening food.

The future has a bright outlook to the sheepgrower with England's failure and falling off in the production of the wool and mutton crops; and a demand of 65,000,000 ths. of imported wool annually clearly shows that the business is not likely soon to be overdone, in view of the dogs and the many diseases they are subject to,

that are liable to befall them.

Now the dog subject is one that can only be guarded against by watching through the day and keeping sheep at night in an enclosure the dog cannot invade. I would suggest that on the south exposure of your shelter be enclosed a

yard of ample room, by a paling fence say six feet high, with a locked gate of the same.

In conclusion, I will urge the general farmer who keeps sheep to use a thoroughbred Cotswold ram, and your Western, Southdown and Native ewes will produce a crop of lambs that will double the fleeces of their dams and increase the adaptability to take on fat, and which, if taken on in excess, can be corrected by keeping more of them. Yours, &c. EDWD. C. LEGG.

Kent Island, June 18th, 1880.

# Essentials to the Flock-Owners' Success.

Common sense teaches that something cannot be had for nothing—that man cannot sow like a niggard and reap like a prince—that the highest achievements are confined to those who put forth the loftiest efforts. With this knowledge ever at hand, the breeder will seek success through liberal but prudent expenditure for the best animals, and will see to it that their desirable characteristics are given the fullest scope for development.

Experience (of himself and others) not only comes in to verify the wisdom of the above policy, but furnishes a road around such difficulties as may be foreseen and makes ready the way out of those that sometimes overtake even the most prudent shepherd. Here knowledge is acquired that can be had from no other source. In the school of experience there are no theories; the lessons are solid facts; failures are paid for, and successes are rewarded in proportion to their magnitude, and the novitiate passes on to the acquirement of newer knowledge and the employment of that already gained.

It is fortunate for the beginner in the vocation of sheep husbandry that so much can be found to his hands as it were ready-made. The achievements of breeders have placed within his reach animals as perfect in type, and as varied in characteristics, as were ever pictured in the imaginings of the breeders of half a century Whether on the frontier of civilization, or in immediate contact with the city; whether on the sterile mountain-side, or in the fertile valley; whether exposed to boreal winds, or fanned by ever-balmy breezes-whatsoever may be his circumstances, tastes, location, the variety of sheep suited thereto can be had, perfect in type and limitless in number. Added to this, all of experience in their manipulation that can be transmitted by tongue or pen is forthcoming from rostrum and press. These, with the re-markable adaptability of the sheep to surrounding circumstances, and its susceptibility to still further improvement of present types and creation of new ones, opens before the aspiring breeder a field worthy of his highest aim, while promising ample return for all prudent ex-penditure of time and money. The wonder is, not that there are so many who see these facts and act upon them, but that the numbers of such are not greatly augmented.—National Live-Stock Journal.

## Wool Raising.

Speaking of the capacity of this country for the economical production of wool in the face of which we are large importers, the New York Indicator says:

England and Wales contain 58,320 square miles, Ireland 31,874, and Scotland 30,685; total 120,879 square miles. The State of Texas contains 274,356 square miles, and yet Great Britain and Ireland produce very nearly as much marketable wool as the whole of the United States. With a practically unlimited area, any part of which is available for sheep-growing, we yet are large importers of foreign wool, over 65,000,000 of pounds having been imported during the last year as against about 35,000,000 the year previous, notwithstanding that there is a heavy import duty. In view of these facts, is it not a little surprising that capital does not seem to flow in the direction of wool-growing? The production of wool seems to be a very important factor in national independence; and in other countries, particularly in Great Britain, considered an essential part of nearly every farmer's business. The risks in sheep farming are few in immense tracts of this country, and the business is attractive from its comparative freedom from the excessive toil and anxiety consequent upon other agricultural pursuits. There is a good opening in this direction.

# Tuberculosis and its Contagion.

Prof. James Law, an eminent authority, thus writes in the *Tribune* about this disease in cattle, which is often confounded with pleuro-pneumonia:

An Ohio lady has "two sick cows, one a month and the other three days ill, sweat at the muzzle, cough, drivel saliva, and pass bloody slime from The horns are cold, the head held their bowels. unnaturally high, there is little appetite, and no rumination. There is considerable coughing among the other cattle. The sick ones did well all winter. Have been fed some bone meal.' The slow extension of the disease from one animal to another and the symptoms of troubled breathing would agree with the lung-plague, but the slimy bloody discharge from the bowels is not characteristic of that disease. All the symptoms would be shown in acute tuberculosis (consumption,) and the poison of this was just as likely to be preserved in the bone-dust as that of the lung-plague. Even as tuberculosis, however, it is to be dreaded: 1st, because of the danger of the conveyance of the disease to other animals through the discharges from the nose, mouth and anus; and 2d, because of the risk of the infection of human beings through the use of the milk and butter, not to say the flesh of diseased cows. In this last respect it is even more to be dreaded than lung-plague, the milk of which, though furred, and calculated to cause indigestion in infant and invalid stomachs, yet is inca-pable of reproducing the specific disease (lungplague) in man.

Of the possible transmission of tuberculosis through the milk there is unhappily no longer any doubt. Gerlach and Bollinger have transmitted the disease experimentally in this way, and in tuberculosis herds I have repeatedly seen calves, the offspring of healthy parents, but had sucked tuberculous nurses, themselves fall victims to tuberculosis. A husband and wife using freely the milk of a tuberculous cow have themselves become victims of tuberculosis. An invalid lady (consumptive) put upon a milk diet, suffered badly because the family cow happened to be tuberculous, and underwent an immediate improvement when the milk was withheld. On the other hard, I have kept rabbits on the milk of tuberculous cows until the death of the latter, with no ill effect on the rabbits. There is probably necessary to infection a predisposition on the part of the man or animal exposed, either hereditary or acquired by unwholesome conditions of life (close, illy-aired buildings, deficient or unsuitable food, damp, undrained soil, etc., etc.,) and possibly it may also be necessary that tubercules should exist in the mammæ of the animal yielding the milk, yet there can be no doubt that the disease is conveyed in this way under suitable conditions, and that men and animals are equally endangered thereby.

The sick cows should be removed from the rest of the herd, and the pl-ces where they have been should be thoroughly disinfected by washing with chloride of lime. The stalls should be fumigated by burning one-half pound or one pound flowers of sulphur. It would probably be best to slaughter the sick, and on opening them the true nature of the disease might be certainly made out. If tuberculosis, there would be within the lungs, around their lower margins, or in the thin membrane that separates the chest into two lateral cavities tubercules (red nodules with a yellowish centre, or a grayish white or dirty yellowish white softened mass, or such whitish masses would be partly calcified by living deposits.) Similar softened deposits would be found in the membrane supporting the bowels, and the inner membrane-supporting the bowels, and the inner membrane of the bowels would be the seat of more or less extensive For the rest of the cattle, the following might be given: Tincture of gentian 1 quart; copperas, 21 ounces; carbolic acid, 14 ounces: mix. Give two tablespoonfuls night and morning in the food. The cattle should further be fumigated with sulphur fumes twice a day for half an hour each time, as is done for lambs with lung worms. But above all they should have an abundance of the purest air, and the diet should be generous and nutritive, while cold and damp pastures and buildings should be especially avoided.

### The Hog Product of the United States.

Few people have any idea of the magnitude of the hog product that is exported by the United States to foreign countries. Upon this subject, the Thirty-first Annual Report of Pork Packing in the West, issued by the Cincinnati Price-Current, gives some interesting figures which we

reproduce for our readers in a form that will be found exceedingly convenient for reference:

HOG PRODUCT EXPORTS FOR ELEVEN YEARS.

The following table, compiled from statistics furnished by the Chief of the Bureau of Statistics, shows the growth of the export trade in hog products during eleven years to June 30, 1879:

1010.			
Year.	Bacon*, lbs.	Pork, lbs.	Lard, lbs.
1869	49,228,165	24,439,832	41,887,545
1870	38,968,256	24,639,831	35,808,530
1871	71,446,854	39,250,740	80,037,297
1872	246,208,143	57,169,518	199,651,660
1873	395,381,737	64,147,461	23 ,534,207
1874	347,405,405	70.482,379	205,527,471
1875	250,286,549	56, 152, 331	166,869,393
1876	327,730,172	54,195,118	168,405,839
	460,057,146	69,671,894	234,741,233
	592.814,351	71,889,255	342,766,254
	732.249.576	84,401,676	326,658,686

\*Including hams.

To show where this enormous product goes to, we give the following table, showing the prin-

cipal consuming countries for the three years ending June 30, 1879:

1879.	1878.	1877.
579,602,407	480,732,348	408, 106, 670
57,115,226	73,364,604	42, 138, 167
98,122,790	106,346,388	47,135,405
128,139,048	114,078,481	83,005,010
110,897,316	80,934,814	54,870,109
33,662,818	34,345,076	32,910.941
19,222,375	12,881,561	10,039,875
15,473,032	15,675,180	11,576,134
15,521,624	18,426,756	18,329,715
10,935,989	10,593,429	5,278,228
10,848,919	10,561,670	10,238,655
68,768,394	49,529,603	40,841,364
	1879. 579,602,407 57,115,226 98,122,790 128,189,048 110,897,316 33,662,818 19,292,375 15,473,032 15,521,624 10,935,989 10,848,919	1879. 1878. 579.602,407 480,732,318 577,115,226 73,364,604 98,122,790 166,316,388 114,078,481 110,897,316 80,934,814 10,897,316 19,222,375 12,881,561 15,521,634 18,426,736 10,935,989 10,551,670 10,848,919 10,551,670

Total pounds......1,142,309,938 1,007,469,860 764,470,273

## Feeding Pigs.

Pigs dropped this spring that are to be marketed this year should be pushed hard from the beginning, in order to insure the largest percentage of profit. They cannot be permitted to go back, or even to stand still, in the accumulation of flesh for a day, without loss. The utmost skill of the feeder is often taxed with the little fellows when they are about a month old; for at that period the milk of the dam ceases to be sufficient to meet the wants of the growing pigs; and if they have not been permitted to learn to eat before that time, and if abundance of highly nutritious food, in liquid or semiliquid form, is not furnished from this time on, it will be impossible to keep up the rapid growth that has been attained by simply feeding the sows properly up to that period. Ground oats and corn, mixed, or ground corn with wheat middlings will make a good slop for the pigs; soaked corn will also be highly relished, and will be found well adapted to keeping the pigs in high flesh; but as soon as the new corn is fairly in milk, that will be found the best of all "Make hay while the sun fattening foods. shines," is the embodiment of sound doctrine in that department of husbandry; but the injunction "Make pork before cold weather comes," is equally as sound a maxim for the government of swine-raisers.

But if the pigs are to be kept over the winter, and fed off for the next spring or autumn markets, we would recommend less of the forcing process; less of the stimulating, fattening grain

diet; and would urge the importance of clover and grass as a means of keeping the pigs in a good growing condition, and at the same time keeping them healthy. Pigs cannot long stand up under the forcing system-the high-pressure plan of feeding that produces the enormous weights sometimes attained at six to nine months-and while this is perhaps, after all, the most profitable method to the breeder and feeder, we very much doubt whether it is the course that produces the best quality of bacon and hams. In these extra-heavy pigs the weight is largely made up of fat-there is no corresponding growth of bone and muscle, and the pork is soft and oily. On the contrary, when pigs are given the run of the clover-field during their first summer, with only a small allowance of grain, the bone and muscle are developed by the food and exercise; and when they come to be fattened off for market, there will be found a much greater proportion of "lean meat" than in the earlier matured pigs.—Live-Stock Journal.

## Polled Aberdeen Cattle.

The National Live-Stock Journal for June says: "We have to announce for the 26th of August a sale that will be sure to attract the attention of those who are interested in the growing popularity of the Polled Aberdeen cattle. It is a very famous herd that is to be sold, none other than that owned by the late Mr. McCombie, of Scotland, who made such a favorable showing for this breed of cattle, by winning the two £100 prizes offered at the Paris Exhibition, in 1878, for best group of any breed and best beef herd. Not many of these cattle have been brought to the United States, but those who have tried them are well pleased with the result, and prophesy that in the near future they will be more sought after than any other breed by those who wish beef producers. tisement announces that the catalogues will be ready by July 1st, and those of our breeders who are interested should send for a copy to Messrs. Murray & McCombie, Aberdeen, Scotland. The sale will take place at Tillyfour, Aberdeenshire, Scotland.'

## Polled Angus Cattle in Missouri.

Mr. Jos. H. Rea, a prominent farmer of Carroll Co., Mo., purchased a number of the Polled Angus cattle last fall, that had formerly been on the ranch of the late Mr. Grant, of Victoria, Kansas. Mr. Rea writes to the Kansus City Price-Current concerning them, as follows:

So far as I have experimented with them, I can say that they have made a very favorable impression on me, though I have not tested them sufficiently to give a decided opinion yet in regard to all their merits. I hope to learn more as I continue to feed them. They fatten wery easily, and will make good selling cattle when ready for market. However, they will not be as large as the Durhams of the same age, so I am undecided as to which would be the most profitable to raise in this State, the Polled Angus or Durhams. With plenty of corn and

tame grass, the Durhams will be very hard to beat in size and capacity to take on flesh, which makes them profitable to raise and feed for beef. On the other hand the Polled Angus cattle will out-sell them on the beef markets, and they are much more pleasant to handle on a farm. Having no horns, they do not endanger the lives of other stock by being with them. They can be turned to straw and hay stacks and your stacks will not be horned down. You can turn them in your orchard or a lawn where there are small trees and they will not twist them down, as horned cattle do. When it comes to shipping there are no horns to get hung in the slats of the cars or under the other cattle, and in consequence pull them down and endanger their lives by being tramped under foot. I believe them to be a very hardy and shifty kind of cattle, that will likely stand the cold better than some other kinds; consequently well suited for the grazing territories of the West. I would advise Western men who have Texas cows to try Polled Angus males, and by so doing get rid of the long horns, as they are undoubtedly a nuisance and should be abated.

# The Poultry Yard.

By G. O. Brown, Montvue Poultry Yards, Brooklandville, Md.

#### Hints for July.

This is one of the most trying months of the year on poultry. Excessive heat night and day makes it doubly necessary their houses should be well ventilated, and kept scrupulously clean. A good plan is, in the hen-house, every morning to strew or evenly scatter over the fresh droppings dry road-dust or ashes. This should, however, be all removed at least once each week, and fine air-slaked lime scattered liberally around. The young chicks must have shady places to run to during the heat of the day. Mornings see that they have their feed as early as possible, and an hour or so afterwards fresh water. Very young chicks, unless water is constantly before them, drink too much, which causes diarrhea. Feed liberally of soft food and they will thrive. The fowls have now commenced to moult, and should be well fed at least once a day. Moulting is a great strain upon them, and it is a mistaken idea that they can forage and get sufficient. They may do so, yet if you want them to commence early winter laying you must help them get their winter plumage on. A few rusty nails in their drinking water is beneficial; and once a week, to every quart of soft food, mix a tablespoonful of flaxseed meal. It is best, if you are situated so you can do so, to keep the sexes separate now. Your early chicks are now large enough to select from for your next season's operations, and the sexes should now be separated. Get rid of those you do not care to keep as soon as possible, as they will eat every day, and doubtless you will realize just as much for them now as a month or six weeks later. See that all your coops are fastened up every night, so that vermin cannot get in and destroy them. By neglecting this for one night, I recently lost some of my best early chicks, which I suppose were killed by a weasel.

# Poultry on the Farm.

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This is a class of stock that is very much neglected on many farms throughout the country. But I believe fowls will bring profit to the farm. At this season of the year, when most of the other products of the farm has been disposed of, poultry is about the only source of income that the farmer's wife has. And this is of no small account, as the eggs from thirty hens will furnish the family with all the store supplies needed, and this will prove to be no insignificant item in times like the present. I saw the other day forty dozen eggs brought to the store by one farmer who said they were from thirty-two hens that had averaged two dozen eggs per day for nearly two months past! What better property was on that farm? This may be an exceptional success, but any person may reach it. On too many farms the fowls are always neglected, just as if they were not worthy of the farmer's attention. But should he conduct this branch with the same care in the keeping and intelligence in the selection of breeds as in the choice of his cows and pigs, he could then see how much difference he would find in the returns they would give. I shall not recommend any particu-lar breed of poultry for the general farmer to keep, for much must depend on circumstances. Any of the improved breeds will do well, but in making the selection reference must be had to the place where and the purpose for which they are kept. For small places, where fowls must be confined a great share of the time, the small breeds like the Leghorns would prove much more desirable than the Cochin-China or Brahma. The larger breeds must have a full range of the fields in order to do well, for in wandering about they find much matter that is so necessary to promote health. The main trouble with this branch of husbandry is in the slip-shod way in which it is managed, especially in winter, when fowls are allowed to roost in trees, or any other place they may choose during cold weather, and often their feet and combs freeze. In many cases all the feed they get is what they pick up, and it takes all of this to sustain life, so that they can lay but few eggs if any. The winter is the time when hens pay the best, and then they must have bones, crushed shell, or other similar aids to digestion, as well as abundant food and warm places to stay, or they cannot be expected to yield any return — Cor. Husbandman.

#### Exercise for Fowls.

Next to proper feeding and the roomy quarters for our poultry, it is necessary that both laying and growing fowls should have plenty of exercise daily. Especially is this requisite for the better health and thrift of the heavy breeds, as the Asiatics. But all fowls are largely better off if they can be kept constantly "on the move" in the day-time.

If we notice it, a flock of hens or turkeys entirely at liberty will roam over miles of field and pasture, back and forth, every day. They never tire of running after winged insects, or digging and scratching in the earth for bugs and

worms. So that it is a natural thing for them to be continually on the qui vive.

Without this exercise, Cochins and Brahmas quickly become over-fat and "logy." This extra fattening goes to the internal parts, and shortly interferes with their laying too. A fat old hen is a precious poor layer of eggs, usually. Don't forget this, fanciers who are continually striving for the heaviest weights on your Cochins, your Colored Dorkings, your Plymouth Rocks and your Light Brahmas. It is so.

Afford the fowls all the exercise they will take. If confined to narrow limits, throw into the pens dry leaves, sand, short straw, weeds, coarse cut hay, gravel, sweepings of yard and lawn, etc., and into this scatter the whole grain at noon and evening. Make them scratch for their dinners or suppers, or both. This will keep them busy, and this is an admirable kind of exercise. And while they enjoy it, it will do them good—every time.

them good—every time.

You need not fear that they will ever labor too hard for their own benefit. This continual activity stirs their blood well, promotes digestion, keeps down the too frequent inclination to internal fattening, makes better layers of the hens, and in every way assists toward their thrift and good condition. Plenty of exercise, ample ventilation in the houses, and regular, systematic attendance, will keep fowls in health—even where the quality of their food is comparatively indifferent. Without these, poultry will give you more trouble, oftentimes, than their product is worth.—Bloomsbury Journal.

# The Dairy.

# About Butter.

#### Circumstances Influencing its Quality.

Prof. X. A. Willard, than whom there can be no higher authority, contributes to the *Country Gentleman* the following:

Milk of average good quality contains about 87 per cent. of water. It has in solution caseine, milk-sugar and certain inorganic salts. In addition, it contains from 3 to 4 per cent of "butter fat." The fat is distributed through the fluid in minute globules, which vary in size according as the milk comes from different animals, or animals of different breeds. The milk globules are found to be larger in the Jersey cow than in the Ayrshire, and larger in the Ayrshire than in the Holstein or Dutch cow. The globule is larger, too, at the time of calfing. From an extensive series of analyses, Dr. Voelcker found the proportion of fat in genuine cow's milk, and milk not produced in any way abnormally, to vary from 7½ to less than 2 per cent.

The composition of cream varies according to its solidity, or whether it is thick or thin. The following is the composition of cream raised from milk set in shallow pans in the old way, viz: Water, 61.67; butter, (pure fatty matter,) 33.43; caseine, 2.62; milk-sugar, 1.56; mineral matters, (ash) 0.72, and making altogether

There is difference of opinion among chemists and physiologists, as regards the condition

in which the little fat globules exist in the milk; some holding that the globule is surrounded with a skin or thin membrane of nitrogenous matter; while the other view is that the fat exists in the form of free globules, forming an emulsion with the caseous and saccharine matter of the milk. But this question need not be discussed here. Suffice it to say that the generally received opinion is that the butter globules are enveloped in a covering, and as the weight of this covering is heavier than water, it accounts in part for the reason why some of the more minute globules remain nearly stationary in the fluid, or do not come to the surface when milk is set aside to cream.

The office of churning, then, is to break these little sacks, or to free the globules of their investing membrane, and to cause the little particles of fat to adhere to each other, thus forming the small, grain-like lumps which compose vellow butter such as we endeavor to obtain. The principles involved in butter-making are the same, whether cream or milk is churned for the purpose; but when whole milk is churned, the labor is considerable enhanced. As a requisite for making nice, sweet butter, it is important that the milk, when drawn from the cow, be good and sound; and if set aside for creaming, it must be treated in a proper manner, and the cream churned when ripe, or before the caseous and saccharine matter mingled with it has progressed far toward acidity or decomposition.

## DIFFICULTIES IN CHURNING.

The following are some of the causes that may delay or affect the churning: The milk may have been kept at improper temperatures, or the cream may have been held too long. Sour and sweet cream may have been mixed and not properly stirred, so as to be of the same condition throughout as to acidity when placed in the churn The cream from farrow cows may have been mixed with that from new milch cows .-The cream may have come from the milk of cows sick or diseased. The milk of cows that are feverish or near the point of drying off is imperfect, and should not be added to milk from cows that are all right as to health and condition. Poor keep, neglect and cruel treatment of cows have their influence on the quality of milk and the cream yielded, and these circumstances may affect the churning.

Cream is sometimes refractory in churning, on account of the badness of the water with which the cows are supplied. This is especially apt to occur in hot weather, when water is scanty and cows are compelled to slake thirst from stagnant pools, or from sloughs and mud-holes where the water is putrid and filthy. In churning, the temperature of the cream has an important influence. If too warm, the fat is melted, and the particles are not able to unite and form lumps of true yellow butter; but a whitish soft mass may be obtained, which, when hardened by cold, is defective in color and consistency of well-made butter. On the other hand, if the cream is too cold the globules do not readily adhere, and the agitation may be prolonged for hours without obtaining butter, and if the butter does come its grain is injured by excessive and long-continued churning. The proper temperature of cream for churning is from 58° to 60° Fahr., according to circumstances.

Cream slightly acid churns easier than sweet cream, but cream should never be allowed to get "over-ripe" or go beyond a slight change toward acidity, for when too sour it becomes injured, and the quantity of butter will be lessened. Sweet cream is usually churned at a little higher temperature than sour cream, and the same rule holds good for churning whole milk. Sweet, whole milk, churns best at a little above 60° Fahr.

In winter, the churning of cream from old milk is often facilitated by scalding the milk before setting, and soon after being drawn from the cow, or setting a few hours and then scalding on the Devonshire plan. By the first method the pan of milk may be placed in another pan or vessel containing water, and then set over the range, where it is heated to a temperature of 140° or higher, until a crinkle on the slight scum of the surface is observed, when it is removed and set in a cool place to cream.

## CHURNS AND THEIR MANAGEMENT.

In churning, care should be taken that the agitation be not too rapid, or so violent as to jure the grain of the butter; for if the grain of the butter be injured, it is deteriorated for present use, and its keeping quality is impaired. The old-fashioned dash churn makes as good butter as any; but unless worked by power it is objectionable, on account of the labor involved in its operation. The dash should be constructed so as to fill about three-fourths of the horizontal section of the churn. It should be arranged to go within one-fourth of an inch of the bottom of the churn, and just clear the cream in its upward and downward stroke. The agitation should be slow at the beginning and at the closing of the operation; but between these periods, about 45 strokes to the minute will be neither too fast nor too slow. With cream properly prepared and tempered, from 30 to 50 minutes will be consumed in churning. Just before the butter gathers, cold water should be added. hardens the butter into small particles and makes a fine grain. There are other churns than the dash that have become deservedly popular in making good butter, and they are operated with less labor than the dash. Among these may be mentioned the Blanchard, Whipple's rectangular, the oscillating, the revolving box and barrel churns. In the revolving churns about 40 revolutions in a minute will give the right agitation of the cream.

In skimming the cream from milk, there should always be milk enough skimmed in with the cream to give the butter when churned a bright, clean look. Butter churned from clear, thick cream is apt to have an oily or shiny appearance when it "comes" in the churn. Butter should not be churned after it has fairly come. It need not be gathered compact in the churn to take out, but the buttermilk should be drained from the butter in the churn through a hair sieve, letting the butter remain in the churn. Then take water and turn it upon the butter with enough force to pass through the butter and in quantity enough to rinse or carry off the buttermilk thoroughly from the butter. Under

this process the grain will not be injured, and thus far, on account of its not having been broken, will retain all the aroma of the flavoring oils.

Another way is to dip or skim off the butter after it is formed in granules about the size of buckwheat kernels, or between wheat and peas, and then placing the mass in a vessel of cold water. It may then be stirred to rinse out the buttermilk without injury to the grain.

It has been well remarked by Mr. Stephens that when butter is properly churned, both as to time and temperature, it becomes firm with very little working, and is easily molded into any shape. It is only in this state that butter possesses that rich nutty flavor and smell which impart so high a degree of pleasure in eating it, and which enhance its value in goid.

## Cleanse Immediately.

There is a good fraction of the success in butter making dependent on the proper cleaning of dairy utensils. Some appear to think it will do just as well to wait a few hours before the milk-palls are washed and scalded; that the churn may stand a half or whole day before being washed and the germs of decay killed by heat; that the cream-pail may be used for several batches of cream before thorough cleansing, because sweet cream is going into it again; that the butter-worker may stand until you want to use it again before scalding, because it will be then freshly cleansed when you use it, etc.

There is altogether too much of this heedless way of carrying on butter making. The nitrogenous portion of milk (casein) furnishes just the substance required for ferments, for the development of germs wholly inimical to pure milk or butter. These ferments remain in the crevices of wood, or the seams of tin vessels, and, unless they are dislodged by immediate cleansing, it requires boiling or steaming, for a considerable length of time, to dislodge them. Every utensil, after each use, must be immediately cleansed if you wish to prevent taints in your milk, cream, or butter. Wooden pails are now discarded from use by the patrons of cheese factories, because they cannot be trusted to properly cleanse them.

If they were immediatly subjected to steam heat or boiling water after each use, they would be sweet; but this steam or boiling water requires to penetrate every pore. The dairymaid or operator cannot be too prompt in cleansing dairy utensils.—Live-Stock Journal.

#### Washed or Unwashed.

Butter gathered in the churn always contains more or less buttermilk, which would soon spoil the butter if not removed. There are two ways of removing it; one is by kneading in water or brine, and the other by kneading it without water. One is called washing; the other working. The former removes it much more rapidly than the latter. The flavor of the butter which has been washed is different from that which has not been washed. The difference between

washed and unwashed butter is analogous to the difference between clarified sugar and unclarified. The former consists of pure saccharine matter; the latter of sugar and some albuminous and some flavoring matters, which are contained in the juice of the cane mingled with it, which give a flavor in addition to that of sugar. Brown sugar, though less sweet, has more flavor than clarified sugar. When unwashed, there is always a little buttermilk and sugar adhering to the butter that gives it a peculiar flavor, in addition to pure butter, which many people like when it is new. Washing removes all this foreign matter, and leaves only the taste of the butter, pure and simple.

the taste of the butter, pure and simple.

The assertion is often made, and many people believe, that water washes out the flavor of the butter; but it only cleanses the butter of the buttermilk, sugar and milk-acid which may adhere to it, just as clarifying sugar removes from it the foreign matter which modifies its true flavor. The flavor of butter consists of fatty matters which do not combine with water, therefore cannot be washed away by it. The effect of washing upon the keeping quality of butter depends upon the purity of the water with which the washing is done. If the water coutains no foreign matter that will affect the butter, it will keep better for washing the buttermilk out than by kneading it out.

PROF. ARNOLD.

# Milk Record of a Holstein Cow.

A record of the milk given by the Holstein cow Mary 187, H. H. B., bred in Abbekest, North Holland, the property of George Hutchinson, Fredonia, N. Y., shows the following result: Commenced weighing milk March 8, 1879, and weighed every day for one year. The largest amount any one day was 70 lbs. The whole amount, from March 8, 1879, to March 8, 1880, was 12.772 lbs.

	make a see a more					
	April she					
In	May she	gave			 1,868	46
In	June she	gave (o	n grass	)	 1,880	6.6
F es	Inl. abo.	TH MA			1 500	6.6

Had this milk been manufactured into cheese, at 10 bs. of milk for 1 b. of cheese—which is the usual estimate—she would have made 1,277 bs. of cheese, or three times what dairy cows average.—Live-Stock Journal.

Hoven.—Judge Luse says that in cases of hoven, tympanitis, or drum-belly, as it is sometimes called, which is caused by cattle eating too heartily of wet, rank grass, clover or green rye in the spring, and overfilling the paunch before the stomach has time to act—hence fermentation commencing, the animal swelling, suffering great pain and generally dying in a short time unless relieved—he gives a teaspoonful of pulverized charcoal every fifteen minutes, in about one-half pint of milk or water sweetened with a little molasses, until relieved. Since he learned of the efficacy of this remedy he has had no difficulty in relieving his cattle from the severest attacks of hoven.

# Horticulture.

# Maryland Horticultural Society.

The June Exhibition, held in the Concert Hall of the Academy of Music on the 3d ulto., presented a very handsome display of plants and flowers, fruits being meagre, and vegetables, as usually, wholly lacking. A stormy evening diminished the attendance of visitors. following premiums were awarded:

Best single specimen greenhouse plant in bloom, certificate, best 12 Gloxinias, \$2, best display of Orchids, \$5, best specimen Hydrangea, \$1, Wm. H. Perot; best single specimen Ornamental Foliage Plant, certificate, best 6 Variegated Foliage Plant, certificate, second best 6 Lycopods, \$1, R. W. L. Rasin; best 6 Marantas, \$3, second best 6 Variegated Foliage Plants, \$2, second best 6 Variegated Foliage Plants, \$2, second best 6 Palms, \$2, best 8 Ferns, \$3, Robt. J. Halliday; best 6 Palms, \$3, second best 6 Pelargoniums, \$2, best 8 Ferns, \$2, second best 6 Fucbsias, \$1, best collection Cherries, \$2, best quart Cherries, \$1, James Pentland; best 6 Pelargoniums, \$3, best single specimen Pelargonium, \$1, best 6 Foliage Begonias, \$2, Alex. Scott; best 6 bloom, certificate, best 12 Gloxinias, \$2, best best 6 Foliage Begonias, \$2, Alex. Scott; best 6 Fuchsias, \$2, best single specimen Fuchsia, \$1, R. Cromwell; best collection Roses, \$5 best 12, Teas and Noisettes, \$3, best and largest collection Strawberries \$3, best quart new variety (Sharpless) \$1, John Cook; best collection Cut Flowers, \$4, best display Peonias, \$2, Wm. D. Brackenridge; second best display Cut Flowers, \$2, A. Hoen; best Table Design, \$5, S. Feast & Sons.

#### Pruning.

Mr. Wm. Saunders recently addressed our Horticultural Society, on this topic, in his usual intelligible and practical manner.

He brought with him evidence, which made "confirmation strong as proof of holy writ," of the injury done by pruning.

No. 1 was the top of a pear tree unpruned, and which was full of fruit spurs.

No. 2 was part of another tree which had been "cut back," and which, besides the main stem left, had 3 or 4 new branches, all of which were destitute of fruit buds.

With these specimens before him, Mr. Saunders might well say "Pruning," at its best, "is a

necessary evil."

The roots of plants, etc., have no inherent power of extension, but are dependent upon the health and action of the foliage; and although, during germination of the plant the roots are first formed, their growth is due to substances in the seed which have been elaborated by the action of leaves on the plant which produced it. It is therefore apparent that the increase in size of the plant, the quantity and quality of its secretions and the extension of its roots are all dependent upon the healthy action of leaves. Thus see how essential the foliage is to the development of the plant. There is a reciprocal

action between the roots and the branches, any disturbance of which must infringe upon the beautiful system of harmony and sympathy which naturally exists, so that every branch or even leaf removed must have an effect either for good or evil upon the plant. So far as merely vigorous growth is concerned in a healthy tree, it is safe to assume that pruning of any kind is an evil. But as trees are not always cultivated for their wood alone, but also for their fruit, it is found advisable to do a little evil, in the way of pruning the branches, so that more good may come in the result of better and larger crops of fruit; and to accomplish this in a satisfactory manner, and at the same time not to materially affect the health of the tree, is the aim of all intelligent cultivators.

To procure the greatest development in a plant, it should be let alone, most severely, so far as pruning is concerned. Pruning will not help it any; on the contrary it will weaken it more or less. We have heard remarks made that pruning is necessary because the branches are increasing faster than the roots. It is difficult even to conceive such a condition of affairs in a healthy tree. As well might it be said that the fly-wheel of a piece of machinery is acquiring more power than the engine which is propelling it. We may rest assured that to get the largest amount of development in a plant we must not remove even a single leaf during the period of active growth. We frequently meet in horticultural sayings and doings, the axiomatic formula: prune in summer for fruit and in winter for wood growth. Trees that are barren from over-luxuriant growth are rendered productive by repressing growth: which may be done by pruning the tree in summer, or by rootpruning in the autumn.

But for trees or plants that are barren from weakness or exhaustion, summer pruning will greatly weaken if not destroy the tree or plant.
The rationale of winter pruning is this: It has

a tendency to invigorate the growth of wood, or, rather, it may be more accurately stated, the removal of a portion of the shoots and buds encourages a stronger growth in those which are retained. The vigor of the plant instead of being expended in the production of many slender growths is concentrated in a few buds which are thus imbued with great vigor, and this is of much value in imparting strength to shoots, and, as in the case of the grape, encourages the formation of young wood of a strength to bear fruit, instead of producing a great number of shoots, none of which may be strong strong enough to afford fruit buds.

A good reason should always be developed in the mind of the pruner for any care he may bestow on his orchard, and he may save his trees a deal of cutting if he will formulate for himself the statement "the fewer leaves the less fruit and wood growth."

There is one time, however, when thorough pruning is necessary. It is when a tree is trans-planted. I have here a third specimen, which you will see, though taken up very carefully, has lost a portion of its terminal roots. To restore the equilibrium, I would cut off all the branches of this young tree when I again set it out.

Note by the Reporter .- If the ordinary pruner is so great a sinner, what must they be called who saw and slash and cut trees and vines without mercy and intelligence, but that-"they know not what they do."

Every leaf has its root complement, and if the

leaf is removed that rootlet must die.

And yet there are times and occasions when pruning is necessary. Study the subject.] G. F. NEEDHAM. Washington, D. C.

# Growth and Reproductive Capacity of the Strawberry Plant.

Messrs. Editors American Farmer:

In the spring of 1879 we received of Mr. J. W. Kerr, (nurseryman,) Denton, Caroline Co., Md., 50 Wilson, 25 Captain Jack and 25 Cumberland Triumph strawberry plants per mail. These were set in good garden soil and were well worked. This spring, from this small stock, we set two thousand (2,000) well-rooted thrifty plants, and have remaining in the bed at least half as many more,—these bore a fair crop of berries of good size this spring. Some of the stools set this spring have, up to this date, June 8th, tillered nearly as large as dinner-plates, and many of the plants bore fruit.

With respect to the value and bearing qualities, as far as developed, these three excellent varieties seem to excel in different ways: the Wilson is the market berry, Captain Jack the most prolific, and the Triumph the most thrifty

Keswick Depot, Albemarle Co., Va.

# Floriculture, &c.-July, 1880.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore Co., Md.

#### Pleasure Grounds.

It is very evident, even to the most careless observer, that the taste for horticultural pursuits is rapidly on the advance; even the very poorest individual, who has to support himself and family on the small pittance of one dollar per day, appears to have become inoculated with a love for Flora in some one or other of the varied forms in which she presents herself. Soap boxes, half-barrels, old tea-pots, and such-like receivers, are pressed into duty, in which to grow some adopted favorite. In speaking of half-barrels, these can be made to present an artistic appearance by simply taking strips of rough bark from a chestnut or oak tree and nailing these up and down outside the barrel, observing to let the upper ends of the strips project about 6 or 8 inches above the upper edge of the barrel or tub; then trim the edge level all round, and afterwards notch or scollop it down 3 or 4 inches. These notches act admirably in keeping in place any vines which may be planted in the tub, which latter should, when filled, be placed on a low pedestal about half as wide as the tub; and, if a proper selection of plants and a tasteful arrangement is made of them, these will form more attractive objects near a dwelling on a small lawn than any vase formed of iron, stone

or composition of any kind that becomes hard. which gets heated by the sun to such an extent that the roots get killed; and, moreover, in the majority of ornamental vases manufactured for the growing of plants, they have too much spread at top and too little space below, in proportion to the width of the mouth, to afford a sufficient supply of earth to supply nourishment for a good display of both flowers and foliage. Hence we have come to the conclusion that tubs of the kind spoken of above, if well drained, will give the greatest satisfaction.

Just here it may not be out of place to name a few plants suited to occupy such tubs. Say for centre, a green-leaved Dracæna, 15 inches to 2 feet high, or a bushy plant of a Lantana, with cream-colored flowers, surrounded by 3 scarlet Geraniums of a profuse-flowering kind, lacing these last with Nierembergia gracilis and Phlox Drummondii; then finishing with a row of trailing plants, as Moneywort, German Ivy and Tradescantia or Maurandya, to hang down over the mouth and sides. Any variation in kinds can or may be made to suit the taste of the owner.

We will now notice the ribbon, carpet and self-colored beds and borders of flowers planted out last month; these will require constant attention, by the free use of the hoe, to keep down weeds and the surface of the ground open. See that in dry weather they do not suffer for want of water, which ought to be applied in the evening, observing to pinch back all straggling branches, so that the lines and masses of the figures may be kept distinct.

The effect produced in carrying out this system of bedding-out receives its influence as much from foliage effect as it does from the glowing masses of flowering plants thrown together; and, perhaps, foremost in the foliage section stand the various kinds of Coleus, to which innumerable additions have been made of late. Among the old ones, C. Vershafeltii still holds its own, while C. Kentish-Fire has many good points. C. Glory of Autumn and C. Superbissima are also very desirable as bedders, while a number of the very new kinds having pale greenish leaves present to our vision a sickly aspect. Achyranthus Emmersonii is a great improvement on A. Lindenii. And we read in the English periodicals of a very dwarf, dark violet-colored flowered Heliotrope, named Miss Holland, said to surpass the H. Miss Florence Nightingale. There does not appear to be any end to varieties springing from those soft-wooded genera.

Where the lawn is extensive and partially occupied with large trees, then masses of such large-leaved and strong-growing plants as Cannas, Wigandias and Castor-oil plants, are very effective, all of which delight in a rich

deep soil.

We usually trim our Pyrus japonica, Pyracantha and Osage-orange hedges about this time, and like pinching the summer growths in the pear to cause the tree to form fruit-spurs; so in like manner if the Pyrus japonica is sheared at this season it causes innumerable flower-buds to be formed for next spring; hence the blazing effect of our hedges of that plant in the early



part of spring. The arbor-vitæ hedges we only trim in early spring, and if repeated in summer it weakens the plants very much and ought to be avoided. And just let me say here, though belonging to a different branch of the business, that a majority of the people keep the grass on their lawns too short during the hot summer months, which exposes the roots of the grass to the burning rays of the sun. Some people recommend leaving the grass cut late in June upon the surface to act as a mulch, but this proves unsightly and is apt to clog the mowing machine at next cutting; therefore, we say, that it is better to let a nap of grass remain growing until it gets 6 to 8 inches high.

The reason why our lawns are so bare in this latitude is because in seeding them down people do not add enough of white clover, which would take the place here of the Daisy in England. With us on our grounds the white clover is a troublesome weed, coming up everywhere spon-

taneously.

Keep the gravel walk clean by hoeing and raking in dry weather, and after a shower apply the roller. On broad carriage drives, sait in which fish has been cured may be advantageously applied in killing weeds, but avoid using it on narrow walks among flower-beds, particularly if a careless hand is set to do the work,—for it will kill weeds, grass and all plants it may come in contact with.

#### Greenhouse.

Hanging baskets, and plants suited to fill them with. The baskets should be of galvanized iron wire, elegant in form, and sufficiently large to contain earth,—enough to sustain six to ten plants for at least six to twelve months. The great majority of such baskets made in Baltimore are too small, and the meshes of wire forming the body too wide, to admit of a substabtial neat lining of moss to hold in the earth. To have a basket that will grow plants satisfactorily, it should have a capacity capable of holding at least half a peck of earth; those containing less soon get dried through and through in our hot searching climate.

Should it be desired to hang them up out of doors, then free-growing plants ought to be selected to fill such, placing the erect growing kinds in the centre, with pendant growing sorts inside the rim, to grow over and hang down. But should the baskets be intended for the greenhouse, then the plants selected to fill them ought to be of a different character—say from the various kinds of Æschynanthus and Davallias, as D. bullata, D. elegans or D. Canariensis; while Cissus discolor and various kinds of rambling plants, as Lygodiums and Echites nutans, Achimenes of various kinds, flower well in baskets if kept humid and warm.

Liliums done blooming should be removed to a cold frame, that their roots may be well ripened before water is withheld altogether. Gloxinias whose flowers have decayed ought to be treated

in the same way.

We have heretofore stated that a natural shade over such plants as remain under glass during the summer, is effected by the Passion flowers, Aristolochias and Cobœas trained along on wire, and if the atmosphere is kept damp by frequent syringings and watering of the floors, both Ferns and many kinds of Orchids will thrive admirably, provided air is given freely above, and other considerations belonging to plant culture are applied.

# A Fine Ornamental Tree—Digestibility of Fruits.

Messrs. Editors American Farmer:

One of the varieties of deciduous trees met with less often than it deserves to be in ornamental planting is the Scarlet Horse-Chestnut. It, of course, is unnecessary to say anything descriptive of a tree so well known as the Horse Chestnut: but the flower of the scarlet variety is so distinct and so conspicuous that we make no apology for calling attention to this neglect. The whole matter of ornamental planting is far less understood, because not studied as it ought to be. Groups of flowering trees, as Catalpa, Horse Chestnut, Laburnum, &c., ought to be much more frequently seen adjacent to suburban homes, whilst the contrasting and blending of colors and shades should be carefully considered with a view to harmony, and as well also for autumnal effect,—the grand display of autumn coloring of our forest foliage being unsurpassed in the world.

Another little matter to which I wish to call the reader's attention is the fact that high flavor alone does not necessarily constitute a good dessert fruit. In support of this assertion we may state what is already known to a great number of your readers, viz: that a person disposed to dyspepsia may eat some kinds of raw fruit with benefit, whilst there are other kinds which cannot be eaten with impunity even by those whose digestive apparatus has not been run down by eating at a 2.40 gait, nor foundered by drinking too much hot tea and coffee, or worse ruined by alcohol.

We doubt very much if any digestive power short of an ostrich's could take any effect upon the pulp of a Catawba grape; whilst some of the highest-flavored and as a matter of course most popular varieties of apples are as tough and as indigestible as an uncooked rutabaga.-Take the popular Spitzenburg as an illustration. We call the attention of the readers of The American Farmer thus early in the season to this matter, so that they may have the opportunity of putting it to actual test. There is a large number who think that an apple which pleases the palate must necessarily be good to eat; that is, of course, if ripe, sound, &c. But we feel satisfied that a little careful observation would go far toward removing this fallacy. And whilst many may eat any variety of fruit with no unpleasant result, there are yet a sufficient number who might eat a Fameuse or a Northern Spy with impunity, but who could not partake of a Spitzenburg or a Baldwin without having to suffer from indigestion, &c.

These remarks are applicable to other fruits than apples, and are offered to obtain the observations of others.

N. F. F.

# Late Cabbage—Hubbard Squash— Preserving Green Tomatoes.

Messrs. Editors American Farmer:

In answer to a correspondent, I will give my way of growing late cabbage plants: The time of sowing is of great importance, and yet few gardeners are agreed as to what date would be the best to put in their seed so as to insure a stock of fine plants for the late planting; and I believe we are no better agreed as to the most suitable time to plant after we have got them.

After years of experiment, I am convinced that the first week of July is, in this locality, the very best time for planting late cabbage,—that is, cabbage that is not wanted except for winter and spring use or sale; and to have fine strong plants at this time, the seed should be put in

the first and second weeks in May.

However, as many of us are desirous to have plants that will come in for fall and early winter use, I will give my plan for having late cabbage, from September until the following spring: I make my sowings once every week, from the 1st of April to the 1st and even the middle of May, and from these sowings I can always find sufficient plants to put out whenever we have favoring rains in June, and I make it a point to get a planting made by the 10th of June if possible. I find that plants set out at this time will be ready for use when I have got through with my first and second early cabbage, and will continue good until the holidays; after which the July planting comes in, they only keeping good throughout the whole winter.

I would here remark that the man who sets out a lot of stunted, worm-riddled, fly-caten plants in poor soil, on the no cultivation plan, in the month of July, will be greatly disappointed if he expects fine heads of cabbage, for they don't come that way. We want fine, healthy, and, above all, large stocky plants, properly set out in good soil, and thorough cultivation, to ensure a good crop of cabbage; and when we have conformed to these requirements, we may be certain of a fine turnout of large heads, that will keep until spring if the planting was done

in July.

I noticed a request for information on two other vegetables: the growing of Hubbard squash and its protection from the borer, and the preservation of green tomatoes in the fall. Unable myself to say much on either subject, I will yet give what little I do know with the hope of inducing some one having greater experience in these matters to come forward and instruct us how to save our tomatoes and kill

the borer:

I plant Hubbard squash in well-prepared hills, eight feet apart each way, and when they begin to run draw the earth to them with a hoe immediately after having run the cultivator through for the last time. Heretofore I have done very little for the borers, but have often wandered what I could do. This year I intend, after the plants have made joint, to draw the earth to the joints also, completely covering them, thus causing them to take on secondary roots; and I hope by this process to overcome the disastrous result of the borer's work at the main root.

But will not some one give us a sure remedy for this destructive insect?

I preserve green tomatoes in this manner: Before the approach of frost I spread about six inches of straw in my hot-beds and in all the cold frames that I can spare, and when I think the tomatoes are no longer safe in the open ground, I pick them from the vines and place them on the straw in my frames, being careful not to heap them much; I then put on the sash and treat them pretty much as I would tender plants in my hot-bed, giving them air whenever the weather will permit. Tomatoes can be preserved in this way until the first of January.

Will some one of your correspondents tell me if it is the habit of the geranium ("Crystal Palace Gem") to break from its distinctive markings and produce shoots like "Master Christine?" I have one three years old that has done it twice, and I am positive that the second shoot was a second "sport." for I had pruned into the original which Leat the first shoot was a

nal wood when I cut the first shoot. CHAS. E. SANFORD,

Gardener to Mt. St. Mary's College, Frederick Co., Md.

# Vegetable Garden-July.

The protracted drought forms the staple of gardening conversation at present. Early summer vegetables, where they are not entire failures, are very much diminished in bulk, and our aim should be to make up the loss by increased

attention to fall and winter crops.

It would seem to be a good plan to make several sowings of late cabbage at intervals from the first of April to the end of May, so that plants of the proper size may be had in June, July and August, to take the place of early crops as fast as the ground can be cleared. The land should be prepared for celery, leeks, cabbage, &c., with great expedition,—for it is a great disappointment to lose the benefit of a shower by being a day too late. We hope to have plenty of moisture for the fall crops; it's a long lane that has no turning.

Sweet corn and winter beet may still be sown, and now is the best time to get in cucumbers for

pickles

The small value of giving directions ahead was forcibly illustrated during the past drought. "Plant corn every ten days" was mockery to those who, during weeks and weeks, could not plant at all. I believe that in farming and gardening a record of what one has done, or is doing, each in his respective sphere during the passing season, would be of far more practical value than the usual stereotyped hints. In this connection I would say that, of three cabbage seed-beds, made at intervals from April to June, the last sown was the most successful, not on account of the time, but the manner in which it was done. The bed was made very rich; the lines made by the marker were well watered; the seed sown and covered first with earth and then with four or five inches of straw. The moment the plants were seen the straw was removed, and the bed dusted with air-slacked lime. I planted my early tomatoes towards the end of April. We had some light frosts after that, but no harm was done. Where one has plenty of spare plants, I think it a right good plan never to lose the opportunity of a shower after the 25th of April. The Blue Imperial peas, recommended by a correspondent last year, turned out finely—the best I had. I have always been fond of adding bone dust to my fermenting manure-heaps, and was glad to observe in a back number of your journal that a man of science—I forget who—justifies the practice. It causes an intense heal, and speedily reduces a heap of coarse material to the manufactured state.

Who will be the first amongst our wealthy amateurs to show us a model American vegetable garden, with a soil so level that it will not wash; so deep and rich that it will laugh at drought, and with the shade of a good brick wall in place of ravenous trees and hedges?

Now is the time to take note of the unsightly appearance of blank spaces in the raspberry, blackberry, rhubarb or asparagus beds, and have them filled up at the proper time.

JOHN WATSON.

# Seasonable Garden Notes.

Those who imagine the life of a gardener to be all flowers, sweetness, and bird-music, and free from all the troubles which harass men in other walks of life, would be quickly undeceived if they undertook the care of a large garden in a season like the present. Drought and heat of July in May, storms and cold of April in June,—between the two both vegetables and flowers have had a hard rub of it. The seeds could not sprout on account of drought and hard-crusted ground, and the transplanted stuff has been beset with insects innumerable. A gardener nowadays must keep as much poison stuff on hand as a druggist, or he will be eaten out entirely.

#### Vegetables.

Melons and cucumbers are a dismal failure. Celery seed came up badly, and what came has had a hard fight to live. The fly has devoured not only the young seedling cabbage plants, but also the early cabbage that should now be headed. Sweet corn came up badly, and wireworms have taken most of that, though the later plantings promise bettter. The greatest promise with me in the vegetable line is in tomatoes and egg-plants. To-day, (June 22d,) I pulled the first Acme tomato ripe and red to the stem. This will do pretty well for the north side of the city; and I do not think Anne Arundel can beat it. It is wonderful how rapidly the Acme tomato has grown in popular favor. I notice that it is this summer the leading sort sent to the Baltimore market from the South. Those who like three-pound tomatoes, and are content to get one perfect fruit out of a dozen bursted and crooked monsters, will continue to grow the Trophy; but for my part I prefer a smooth biscuit-shaped and sized tomato to any of larger

Egg-plants we have now (June 22d) as large as a turkey's egg. Don't think Anne Arundel can beat that either. Peas have been a worse failure than I ever knew them. The early ones were ruined by the drought and the late ones have failed to fill well.

#### Strawberries

Did better than they promised at first; the early ones were small, but the rains came in time to save the Kentuckys. Sharpless seems to be a wonderful grower, and makes the largest foliage of any variety I have. The fruit is very large, but I fear it will prove to be too shy a bearer for general use. Still, it is worthy of a fuller trial than I have given it. Crescent Seedling is wonderfully prolific, and a bright, handsome berry. It is not large enough for most people, but I shall give it further trial. Those who plant Monarch of the West, Charles Downing and Kentucky will have no reason to complain. The great advantage of the Kentucky is its late ripening and uniform good size from first to last, and its last reach up to the first raspberries. It also has the good habit of holding its fruit well up off the ground.

# Raspberries and Blackberries.

Raspberries are now in their glory, and our crop is uncommonly fine. I am not trying any of the new highly advertised kinds, as I am sure we can get nothing among them better than the old tender sorts, or near as good; and it is so easy to protect the Raspberry canes in winter, that I much prefer to grow the tender ones until we get a hardy one as good. Any one who can see the "Hornet" as we are now gathering them, won't want to waste his time on any newfangled black-cap, or the new hardy reds, with more name than fruit. Here and there a ripe fruit is showing on the Kittatinny Blackberries, and the prospect for an enormous crop is fine.

#### Bedding Plants.

In the flower garden, the tender bedding plants such as Coleus, &c., have not done much on account of the changeable weather and many cool nights, but Geraniums and the hardier things are doing finely. Among all the host of new Coleus sent out this spring, only a few, I think, will take rank as bedders. Among these Dree's Superbissima is destined to a high place. The peculiar rich dark purple of its leaves, with their bright carmine centre, makes it a very distinct plant, and with me it is holding its own in the open ground better than any other, new or old. I expect to use it largely as a dark line plant. A perfect yellow Coleus is yet to be raised. El Dorado and Burkii are both good under glass, but weak outside. For a light line next the turf, the old Coleus Beauty of Widmore is doing first-rate. This was discarded years ago as a bedder, but for the past two seasons it has done well with me, and I shall grow it more The broad white margin of its leaves makes it distinct from any other Coleus, and peculiarly well calculated to contrast with the new dark purples.

The variegated Stevia keeps its white variegation and grows well in the sun, and, I think, is going to prove useful for lines of white in ribbon beds. The principal trouble with it is that it does not make good wood for propagation in the house until late in spring, and the plants are, therefore, small when first put out. I think its proper place is with Alternantheras, to

be kept sheared down to the same height as the Alternantheras. The mildness of the late winter is shown this summer in the reappearance of tender herbaceous plants left out last fall. A clump of Cannas came through entire, and some Dahlias, as also a large number of Gladiolus of the tender sorts. Among shrubs, the Sweet Bay came through with the loss of a few leaves, and is now growing finely. Still, on the whole, I prefer an old-fashioned hard winter. We want frost to mellow our heavy soil.

Hampton Gardens, W. F. Massey.

Hampton Gardens, W. F. MASSEY. Baltimore Co., Md., June 22, 1880.

# Protecting Grapes with Paper Bags.

A member of the Kentucky Horticultural Society, in a paper read before it, gives his experience thus:

When Mr. Bateham, of Ohio, first suggested this novel plan, I considered it an absurdity. I could not imagine how a bunch of grapes, shut off from sunlight and air, could properly mature with good color and flavor. I resolved to give it a fair trial. One fact is worth a great deal more than many theories; and, starting out with prejudice against Mr. Bateham's plan, after a first trial must confess myself a convert and its advocate.

This year I put on 2,000 paper bags—in many places on the same spur, alternating with the netting and bags. The results were most satisfactory. The grapes ripened evenly, with the best of coloring, fully as early as when not inclosed, and with a flavor equal to any grown without bags. More than this, the bunches came out of the bags with a splendid bloom and as perfect in every respect as it is possible for a grape to be. The paper bagging prolonged the season for nearly a month. They are very cheap, and more easily put on than the netting,

and the grapes cannot be touched by the birds. The bag is slipped over the bunch when the grapes are about one-third grown, folded together around the stem, and a pin stuck through the folds. This is all the fastening necessary. Care must be taken, however, to make a small slit in the bottom of the bag, for, unless this is done, when a heavy rain falls one-half a pint of water will get into the bag, and, standing around the grapes, will injure them, or by its weight tear the bag off. Merely pierce the bottom with a blade of a knife.

Grape-growers are greatly indebted to Mr. Bateham for this simple and wonderful protection to the fruit. In this part of Kentucky, between curculio and birds, there is little left to the grower. These bags are absolute protection from both. I also found grapes so enclosed, both in the netting and the bags, less liable to mildew. Those in paper bags were more favored in this respect than those in the netting.

Those who have not tried either of these plans, cannot imagine the difference in the perfection of fruit secured with their use. Large bunches can be taken out of the bag without a single imperfect berry, and with a bloom upon them that is simply magnificent. Fifty cents' worth of paper bags will be sufficient for an

experiment. Putting them on will require only a very short time, and, once tried, they will never be neglected.

# Work for the Month-July.

Every farmer is now pressed to do many things and to do them all quickly. The early grain harvest this year has brought even more than the usual work all together, and, however ardent the weather, the appropriate work of the season must be vigorously proceeded with.

Wheat.—In most sections where the Farmer is read this crop will have been cut, and we can only admonish our readers that where anything has been left unsecured it ought at once to receive attention, for there is no crop grown attended by as many risks, even after the expenses of its cultivation and harvesting have been met. For many reasons it is profitable to thresh from the field without putting into the barn or stacking. What is here said of wheat is equally applicable to rye and nearly so to oats, though the latter are not so quickly damaged by exposure after cutting.

Hay Harvest.—Timothy should, if practicable, be cut before the seed fully matures, when the straw becomes hard and wood-like. If cut too early, however, the hay will be light and innutritious. In cutting wait in the morning until the dew has dried off. Only a few hours exposure to the sun is necessary, when it may go into the barrack or barn. Do not, if possible, after it is once dry, allow it to get wet, as dew and rain both blacken it.

Millet and Hungarian.—Both of these crops may be put in up to the middle of the month. Sow them where the soil is naturally good, or give a liberal application of manure. Plow the land deep; put in good order with harrow and roller. From three pecks to a bushel of seed to the acre is sufficient, and it ought to be harrowed lightly or brushed in and rolled.

Corn for Fodder.—Crops of this may be put in to the end of the month. There is no plan so good as sowing in drills and running the cultivator through two or three times during its growth.

Buckwheat.—This crop should not be sown for the grain earlier than the middle of the month. The land ought to be in fair condition, and an application of say 150 lbs. of a good fertilizer will pay its way. Sow from two to three pecks of seed to the acre, then harrow and roll.

Tobacco.—The planters must now be cautious in planting tobacco. The season is late. Success at best doubtful. Extra land and plants may make a success. Keep down the grass and work up the land thoroughly with plow and cultivator. The planter would do well to begin to think upon the suggestion in our last upon furnace heat to cure our great staple. Houses for the purpose may be large enough to cure only one thousands.

Potatoes.—This crop may still be planted early in this month. Take some pains to plant while the ground is fresh, and select as far as may be soil that contains considerable vegetable

matter. A mixture of ashes, plaster and salt is often a paying application; also Peruvian guano, or fine bone and muriate of potash. Keep up a condition of lightness of soil, by frequent work-

ings.

Ruta Bagas.—Sow by 20th of the month; and, if you can so arrange it, before a rain, which will cause the seed to germinate quickly and the plants to soon get beyond the reach of the fly. About 4 lbs. of seed to the acre is sufficient where it is sown in drills of about 30 inches apart. The plants should stand 10 to 12 inches apart. Keep well worked from the start, and if the fly attacks the young plants dust over them sifted ashes, air-slaked lime, or plaster.

Flat Turnips.—These may go in from the 25th on,—early sown ones being more productive than later ones, but not so good keepers. New land is suited to these roots, and is all the better for having a proportion of sand. If deficient as to fertility, a suitable application is superphosphate, which gives admirable results with turnips. The seed is usually sown broadcast, a pound being enough for an acre. It ought to be sown as quickly as possible after the ground is prepared, so that it may have the readier start.

Root Crops of earlier kinds ought to be frequently and thoroughly worked, to keep the ground open and prevent grass and weeds appropriating moisture and plant-food which ought

to go to the proper crop.

# The Orchard and Fruit Garden.

The harvest of the orchardist will open this month with all the important labors accompanying it. Early apples, pears and peaches will be ready for market; and to send them there in the best condition and most attractive style should be the ambition of every grower who expects to realize remunerative prices for his fruit. There always have been, and always will be, a plenty of "bunglers" and "slip-shod" cultivators to supply the market with inferior fruits-such men as despise theories set forth in agricultural and horticultural papers, and economize by saving the money a subscription to a good paper would cost, to too often invest it in a jug of common whiskey; but inferior fruit and badly shipped is the exception and not the rule with the progressive, the intelligent and reading grower; and the profit in fruit-growing, as in all other industries, is governed by intelligently-directed labor. This long-established gently-directed labor. fact illustrates very plainly why success clings to the companionship of the minds made intelligent by reading and vigorous thinking, coupled with practical zeal.

Those men who "have no time" to read the "nonsense put in the papers by city farmers" as a general thing can spare an hour or more at the close of each day's work to meet and commune with their fellows on the empty goods boxes at country stores, elect presidents, governors, &c., every night, retail gossip and low scandal, poisoning the minds of their boys, who are by example led into the practices of the parents; whereas if three or four dollars were annually expended in good agricultural papers, the evening hours of the boys at least might be spent to

a better purpose for themselves and the community. But we are digressing, and return by stating that it is a very unprofitable practice to fill in the crates or baskets, the inferior with the good fruit, as it all sells for cullings then; whereas if the really good fruit is carefully assorted and packed by itself, the top of the market may be expected for it; and for one box or basket thus prepared there will be more obtained than from half a dozen where the fruit—good and bad—has been indiscriminately jumbled together.

Strawberry beds should be kept clear of grass and weeds, and the soil frequently stirred by the

hoe and cultivator.

Raspberries, as soon as done fruiting, should have the old canes removed, as also blackberries, and the plants kept clean and well worked, so as to insure a good growth of cane for the next year's crop. Gooseberries, where not practical to mulch, and thus keep the soil cool around the roots, must have frequent loosening of the soil as the best substitute for the mulch.

Grape Vines need a little looking after, as the tender canes, developed by good soil and culture, need tying to stakes or trellis to secure them against injury by wind-storms.

# Selling Farm Produce.

The Massachusetts Ploughman thus discourses

on this important topic:

A farmer may know just what crops are best adapted to his farm, and how to apply both labor and material, so as to produce large crops, at the lowest possible cost, yet if he does not know how to prepare them for the market, what parties to sell to, and how to approach them so as to realize a fair price, he will fail to become a successful farmer.

To be able to sell farm produce readily and to the best advantage, requires experience and a knowledge of human nature. Experience teaches that the manner of assorting and preparing produce for market does almost as much to secure the sale as the quality. The farmer should make it a study how to select and arrange produce to the best advantage; and he should also exert himself to put all perishable articles into the

market as fresh as possible.

Fruits and vegetables having different qualities should, as a rule, be assorted so the poorer qualities can be sold to those who consider price before quality, and the best quality to those who want only a good article, and are willing to pay a liberal price for it. In selling fruits and vegetables the farmer should decide how it is best to sell, whether at wholesale or retail. If he decides to sell at wholesale, and has large quantities to sell, it is always best to be in season in looking up a market for it. It is rarely if ever wise to sell a portion at retail and wholesale the remain-Dealers who know that a farmer does this, are always jealous that he will undersell them, and so they treat him coolly, and buy of him only when they can do no better, and are never willing to pay him as high price as they do those who sell them their whole product.

While large farmers, favorably located, may find it for their interest to send out a wagon to

peddle their produce from house to house, small farmers cannot afford it, for if they go themselves they must neglect the cultivation of their crops, or hire some one to take their place. Besides, to peddle produce is a trade that few farmers are adapted to; and if they were, to sell to advantage they must carry a large assortment, embracing all kinds of produce likely to be called for by the consumers; to do this he must either raise a great variety or purchase a portion of his load. To call at every house to sell a single article, like asparagus, strawberries or cranberries, would be a great waste of time, and rarely ever a profitable operation.

We know that there is a great cry against the middle man, and undoubtedly in some cases with just cause; their commissions are sometimes altogether too large; but there are many good upright honest men who are always ready to pay a fair price for good articles. It is to this class of dealers that the farmer must confine his sales. But to sell to them he must be as honest as they are; for this class of men are always able to buy, not only the best articles in

the market, but to have their pick of producers. The farmer who puts all of the best apples on the top of the barrel, half dresses his chickens, puts stones in his bundles of hay, will sooner or later be compelled to sell to those who take all selling. To be able to secure the custom of the the advantage they can, in both buying and best men, great care must be taken to put up each article in as neat and attractive packages as possible; and it is always best to have the packages as uniform in size and quality as possible; if there should be two qualities, they should be put up in packages so that each quality can be readily distinguished, and should be sold for just what they are.

A few small stalks of asparagus, or one or two poor large stalks, spoil the looks and injure the sale of the bunch; so, too, a few small or poor apples, or potatoes, reduce the value of the whole much more than the increased measure will raise it.

The farmer who always takes particular pains to put up his produce in neat attractive packages, and never mixes the second with the first quality, will have to spend but little time to find good men ready to buy all his products, and pay him a fair price; but he who mixes three qualities together, and tries to sell them as first quality, will always be troubled to find buyers, and usually have to sell at low prices.

To sell to dealers in the city is quite a different thing from selling to dealers in the country. With the latter the farmer may stop and chat upon the topics of the day. But the city dealer has no time, if he has a disposition, to stop and chat upon the news of the day; he has no room for loafers; and as he devotes his whole time to his business, he likes best to trade with those farmers who stop only long enough to transact their business.

We once heard a very successful manufacturer say that it was never good policy to urge a city dealer to buy; that it was best to make short calls, say as few words as possible, never to manifest any anxiety to sell, but to call frequently to see if anything was wanted. He said he

had followed this policy twenty-five years with great success. He also stated that he had obtained five per cent. more for his goods than others who made the same article, by never promising goods that he could not furnish, and always delivering them within the time agreed on. What is true in manufactures is undoubtedly true in agricultural products. Farmers in their dealings with business men should show energy and promptness, and transact their business in a manner that will require as little time of the merchant as possible.

Produce that does not require to be sent to market immediately after it is harvested should be housed in a manner to improve, as far as possible, its keeping qualities, and should not be forced on a full market, but kept until the over-stocked market is relieved. There is always a best time to sell, and the farmer who is a good salesman will keep the run of the market to ascertain when that time arrives, and then dispose of what he has to sell. There is one class of farmers who are never ready to sell; they hold their produce for higher prices, and keep it until over-ripe, and are compelled to hurry it to market and sell at a discount, or perhaps let it decay and become a total loss. We remember a farmer who refused forty-five dollars per ton for hay, because he said he thought he ought to get fifty; but failing to do this, he kept it another year, and sold it for twenty-five dollars. We remember another who sold his winter apples for eighty-seven cents a barrel to a man who stored them and sold them without picking over for three dollars a barrel.

Farmers to be successful must put up their produce in the best manner, learn to be good salesmen, watch the market, and sell just at the

right time.

# Cecil County (Md.) Agricultural Society.

An association has been formed on the joint stock plan for holding fairs of agricultural products, farm-stock, machinery, &c., of Cecil, and the following officers have been elected for the first year of its existence: President, Adam R. Magraw; Vice-President, Thomas Drennan; Secretary, John Partridge; Treasurer, Geo. A. Blake. Committees have been appointed to secure subscriptions to the capital of the society, and to select grounds near Elkton for the holding of its exhibitions, the first of which it is hoped will take place the coming fall. The movement is a popular one in the county, and a considerable subscription has already been secured. There is a good deal of fine stock in Cecil, and with the energetic Board of Directors appointed, a creditable and useful show may be annually expected.

Fastening Lamps to their Stands.—When the plaster paris which is used to fasten on the brass collar of a coal-oil lamp is dry, (new,) rub a little glycerine on it with the finger, and allow it some minutes to soak into the plaster before putting any oil into the lamp. After which the oil cannot wet the surface of the cement, and the collar will not become loose; nor will the oil creep over it to come out and soil the outside of the lamp.

D.

# The Grange.

# Grange Education.

The efforts of Patrons have hitherto been directed almost exclusively to the financial and social benefits of the Order, or, if turned to the educational feature at all, it has been in a way calculated for grown-up men and women, who were conversant with the fundamental principles of scientific agriculture, and not for children or those just becoming farmers.

That this should be so is not astonishing when we recollect that the mass of Patrons are mature men and women, whose bitter personal experience has led them into the Order, rather than an intelligent appreciation of the broad, catholic and universal principles of the "declaration of

purposes.

Scientific farming is of modern origin, dating substantially from the efforts of Liebig, some forty years ago. He it was who, by his investi-gations, showed that the cultivation of the soil and the growth of plants was not the result of empirical art, but had their foundations in principles as unvarying and immutable as those of

mathematics

And with this knowledge has been a growing desire to understand these scientific principles and make them applicable to the farmer's every day life. There are quite a number of books professing to teach these things; but the majority, if not all, hitherto published were written for those who had had a preparation, a sort of education, however imperfect, which fitted them to take them up with profit; and these books. good as they are in themselves, were no better than sealed ones to those who had not this preliminary instruction. For all practical purposes it was like putting a child in "intermediate geography" who could not use the "first reader." or in "algebra" before he had mastered the "primary arithmetic."

It is the glory of the Patrons' Order that they have made it obligatory on every master of a grange "to encourage the education of the children within the limits of his jurisdiction; to see that they are not banished at the tender age of childhood from the school of early instruction to the labors of the field before the mind has received that gentle care and training which enlivens, explains and dignifies labor.

And these four last words, thoroughly understood, constitute the difference between science and art. A high degree of intelligence may exist without science, but no one yet ever became a master in his profession or calling without a full and thorough knowledge of their

It is the union of science with art which gives the highest results. Chemical science has revolutionized the dyer's art; it has entered the grist mill and rendered that possible which was thought to be impossible; it has invaded the metallurgist's factory and enabled him to send out thousands of articles to gladden the eye, cultivate the taste and scatter abroad the love of the beautiful, which was impossible before; it now touches the sun and those greater ones, the stars, and we gather up some faint notions of that higher power by whom "all things were made."

The grange has done one great work if no other: it has set its members to thinking. And for the man who thinks, however erroneously, there is hope; yea, great hope that his "latter end will be better than his first."

And from this master's duty about children comes the introduction of the study of agricul-ture into the common schools of Tennessee. With more than half the population of the land farmers, we teach the children geography, that they may understand commerce; arithmetic, to make accountants; algebra and geometry, to become cadets, midshipmen or civil engineers; a little history, to enable them to be lawyers or ministers; book-keeping, to be merchants; and some botany, that they may talk of stamens and pistils; but not one word of the soil from which comes their living; not one word of the best manures applicable to the different soils, nor of the best plants or grasses to cultivate in them; not an intimation of the best breeds of horses, cattle, sheep and hogs for different sections, climates and soils.

All these things the farmers' children are expected to gain by intuition. His father was raised so before him-it was enough for him; it would be wrong to make him wiser than his

father.

Away with such trash! Commence with the boy and the girl in the common school, where two-thirds of the men in the United States commence and end their education. Put in their hands books which will teach them that a farmer's life demands more scientific knowledge than any profession or calling whatever. There is no domain of science, however abstruse, that is not directly or indirectly connected with farming. And there is not one which more thoroughly demands of its followers that they be encyclopedias of knowledge than those who

With these views, let us hope the Patrons of Maryland will demand and secure the introduction of agriculture into the common schools. The present generation but lives for those who come after them. We brought nothing into the world; we can carry nothing away, save the consciousness of having used the "talent" given us to the best advantage. Can we do this when we start our children in life ignorant of the principles of that science by which they

must earn their bread?

Fellow-farmers of Maryland, men grown grey in your chosen pursuit, are you doing your duty to your children when you do not give them a special education, alike demanded by the exigencies of the times and the world's progress? Are you, fellow-Patrons, striving in earnest after the development of a "higher manhood and womanhood" for those who, in a few short years, must become your heirs and successors? Is there no goal of a higher ambition to make your children the peers of the proudest in the land by an education fitted to a calling demanding the most diversified education on earth?

Wicomico Co., May 10th, 1880.

# Evenings at the Grange-No. 2.

#### Ceres Makes a Little Speech.

Although the principles that underlie the grange are as enduring as the ground the farmer walks over, yet the grange, no more than the farm, can conduct itself. And it is a self-evident fact that just as each particular farm is made, according to its treatment, good for much or good for nothing, so each distinctive grange is going to be just exactly what the men and women who constitute it choose to make it—noble or nonsensical; fraternal, fervent and efficient, or farcical, feeble and utterly faithless and worthless.

With every novitiate, as we grangers know, as soon as the beautiful ceremonial of degrees is over, the very first question that springs spontaneously to the lips is: "And what next?
What must I do now?" If no answer is ready to this natural query; and the next meeting has nothing to the point, nor any succeeding meeting; and every time the brothers and sisters find nothing to do but only to dress up in their regalia and sit around as prim as a quaker meeting, the brothers ejecting nothing from their lips but tobacco juice, to keep things from being too dry, and the poor sisters looking as scared as so many mice caught in a trap; the lecturer, with never a word of advice or morsel of entertainment to render; the Worthy Master going with undisturbed precision through the dry drill of the evening; no singing, no speaking, no reading, no eating; nothing done but a few fees paid into the treasury, and a few "lasttime absent brothers made to give an excuse," all sitting about listless and uninterested, until the next initiation service brings the officers to the front and saves the whole concern from entire inanition! What, we ask, could be more natural than for an initiate to feel dissatisfied, to use the very mildest term, to feel that he has not been fairly dealt with; in a word, to feel that he is not getting that which he came into the grange to get. And who can blame him? Can anything be more diametrically opposed to the whole genius of the grange than such a depressing and demoralizing state of affairs?

Now, it is not presumable that every meeting of a grange has to be a business meeting; still less that such a farce as we have described is the normal and habitual condition of any grange. Such a concern would of course die of inanition before it was old enough to speak for itself.

But the question is, can any grange afford to indulge at any time, even so much as once in a lifetime, in such a dangerous experiment? Is it not damaging and demoralizing—thinning to granges and disaffecting to grangers? And, above all, are we not false to our plighted vows to allow the grange to descend to such abuse, and misrepresentation and misappreciation of its grand opportunities?

Half a dozen blows of this sort, deliberately and consecutively given, will make any grange totter from its lofty position, that is its rightful place. The members will scatter here and there, make it a point to have "business engagements" and "home duties" when the time of meeting comes, although it may have been a month in

full since they met before, and will be another full month ere they meet again. And "the last-time absent" brother may be fined and fined, but they will not find him when wanted for "a' that."

If he is a business man he has better use of his time than to throw away two or three hours doing nothing. If he is a man of leisure and pleasure he wants to be entertained when he puts in an appearance; and if he is a man at all we may just rest assured that he is not going into any place that does nothing for him but only to draw a little money out of his pocket. And the imposed absence fee is no remedial measure, rather an aggravation of the evil. No more is that puerile plan belonging to it of making the brother so fined get up and begin to make excuse like some truant schoolboy.

The grange is a voluntary association, and the brother or sister who will not go into the meetings regularly without being pelted in with the absent fee pennies, had quite as well stay

Whenever grangers are found dropping off in their attendance and interest, and the grange has failed to become a vitalizing and dominant power in any place, the fault is not with the grange proper; not with grange principles, nor grange requirements, nor grange abilities, but simply with us individually, as unworthy and inefficient and unappreciative grangers.

And not in fines, not in excuses, not in compulsory measures of any sort, is our remedy.

If we want the grange hall crowded we must make it ATTRACTIVE; and if we want the grange patronized we must make it PROFITABLE. With these two skillful practitioners we can readily cure any of the small ills that so healthy a body as the grange can be heir to.

When we look at the almost boundless prospect in the way of entertainment and gainment that the grange sets before us, it would really seem that nothing but the intensest stupidity, or the most incomprehensible want of appreciation and interest, could make the grange hour anything but bright, attractive and improving!

You ask, then, what is necessary to make a grange pleasant and profitable.

1. To make our meetings PLEASANT: the first thing we have to bring with us is the spirit of harmony and good will. Smiling faces and courteous tones are the wholesome sunshine of the grange. No meeting will be pleasant without them, and no grange has an influence for good when they are wanting.

Then let us have as much of the ornamental and artistic as the simple lives of grangers will permit; and by the word "artistic" is not intended any strain after man's skill or device, but only the selection and arrangement of nature's resources.

A prettily-decorated hall, where loving hands have gathered in the beautiful leaves and grasses and flowers of the season, and placed them about with good taste, or hung them in fitting emblems around the walls, is certainly agreeable to all eyes and educational to the plainest and roughest tastes.

This, in the presence of a fair Flora, and Flora, by the way, (if the grange admits of such a possibility,) should always be fair, and

always bring flowers. And a proper Pomona with her fruits,—if only a basket of apples, some fruits she must bear. And a consistent Ceres, who is required to have her emblem somewhere about her, if it is only a basket of corn, or a

bunch of wheat, or oats, or rye.

Next, then, and a most valuable aid to the desired end, is singing. I much doubt if any meeting can be bright and in good spirits with-out it. Not the slow, nasal drag that is very natural and much cultivated by some good brothers and sisters; this merely helps to make things heavy and horrid, and is decidedly worse than no singing, as its tendency is to throw people of more æsthetic taste into spasms. Of course, in the country it may be almost never that we can secure anything like scientific music. Nor do we care particularly for it at anything so characterized by simplicity as a grange meet-ing. All we want is little glees and lively airs that are unpretending and inspiriting, and such as can be had in the least musical community if the members will only lay aside false shames and foolish vanity and try to do the best they can.

Then feasts, too, must be had every now and then to keep the digestion of the grange in good order. Not regular pic-nics and troublesome festivals—once a year is quite enough for such; but simply a little "hand 'round" of something grown or made by some of the members; plain cakes or domestic wine, made by one of the sisters; or a basket of fruit in its season, raised and brought in by some good brother; or melons, or sliced tomatoes and bread and butter, or anything that helps to break up stupid stiffness and diffuses the social glee belonging to the family circle.

I think the brother or sister would be hard to please who could not extract some sweetness or pleasure from a social hour spent under such

conditions.

2. To make our meetings PROFITABLE.

Here Ceres looked at her watch and found her self-allowed ten minutes gone. She begged the brothers and sisters to "shake and take" the little broken doses she had given and to invardly digest, and at another time she would say her little say on the subject of making the grange profitable.

VIRGENIA CLARKE.

### Maryland Granges.

Baltimore County Grange, No. 13, held its regular quarterly (and annual) meeting on June 8th, on the grounds of the County Agricultural Society at Timonium, the use of which and of a building for the meeting was courteously

given by the officers.

This being the meeting for the election of officers, as soon as the credentials of delegates were received and the routine preliminaries arranged, it was proceeded with. In the ballot for Master, Wm. B. Sands, of Glencoe, was elected, but he declined for reasons personal to himself, and, after some debate, his declination was accepted, and Thos. B. Todd, of Patapsco, elected Master. The following officers were then elected: Overseer, D. Jenifer; Lecturer, Wm. B. Sands; Steward, C. Lyon Rogers;

Asst. Steward, Chas. W. Semmes; Chaplain, Gerard Emmart; Treasurer, Geo. H. Merryman; Secretary, Richd. H. Woollen; Gate-keeper, Aug. W. Sweeny; Ceres, Mrs. T. B. Todd; Pomona, Mrs. W. Stevenson; Flora, Miss Annie Dawson; Lady Asst. Steward, Miss Angie Emmart.

The committee appointed at a former meeting to endeavor to procure a change in the law regulating the fees for the weighing of hay by State officers, and to examine the question of the advisability of establishing a farmers' scales and hay market in Baltimore, in the event of the abolition of State inspectors, was enlarged and continued, with instructions to agitate the subject until the legislature granted the relief asked. On motion of C. Lyon Rogers, a resolution was adopted calling upon the governor of the State to take adequate steps under the law recently enacted to stamp out pleuro-pneumonia in the county by the appointment of a competent unpaid commission, to be composed of five persons engaged in agriculture, empowered to employ skilful and educated veterinary surgeons to deal with the disease.

It was determined to hold, early in October, a public meeting and pic-nic, the arrangements for which were left to be completed at the next

meeting of the grange.

CHOPTANK DISTRICT GRANGE, No. 3, will hold its regular quarterly meeting at Kingston, Talbot Co., on Wednesday, July 7th. The State Master will be present.

# Home Department.

"Let Your Head Save Your Heels."

We may be spendthrifts in the use of our physical powers, and thereby become bankrupt in a more serious sense than through prodigality in regard to money matters. If we only made use of such energy as we apply to real practical purposes, very few of us would know what wearing out meant; yet the larger portion of women who become heads of families grow prematurely old and wear out long before there need be cause for it, if they only would use without abuse or waste such strength as naturally belongs to them.

Our homes are miniature worlds, and the same principles that operate to keep the affairs of nations moving smoothly apply to our domestic affairs; and we might as well suppose that public affairs would work themselves into shape through the hap-hazard efforts of individuals, as that our household matters would settle into comfortable order by the mere doing of such work as different members of it chose to undertake, without any regulating spirit to guide them. There must therefore be a head of some description in every house; and if that head is incompetent, unquestionably there will be little chance for bringing the house under any comfortable ruling, be the hands and feet ever so willing.

Occasionally we see a house where everything moves so easily that no one seems to have very much to do, and yet everything is somehow always done at the time it is wanted. It puzzles

many a busy housewife to know how all this is accomplished, and they are always on the lookout for some shortcoming to equalize matters; failing to find them they conclude there must be witchcraft at work, since with all their hard work they can accomplish no more than is there done apparently with so much ease. To say the least of it, they conclude that the head of that house has a knack by which she is favored above her peers. We may call it knack, or witchcraft, or anything else that implies a special gift, but it really is nothing more or less than that the head of the house has a head of her own and makes good use of it, and thus makes every effort of her own and her assistants to produce some desired effect. There is no waste of steps or elbow-grease there. Those of us who depend upon brute force to bring about such results may possibly succeed in our object, but it will be at the expense of youth, health and happiness; while our neighbor who relies more upon her head remains in the enjoyment of all these, and from her serene heights complacently pities our shortsightedness.

Head-work everywhere has the best of it; and when we fail to recognize this fact we may as well abandon all effort at competition, or give ourselves over to drudgery without enjoyment

to ourselves or others.

In household matters more than anywhere else does forethought lessen labor, but it is there that our forethought is so apt to come after-ward; (pardon the Erinism.) When we have made several trips from garret to cellar, or from one end of the house to the other, on as many errands, we sometimes discover that one trip might as well have served the several purposes. It is in the daily round of ordinary duties that we oftenest fail to use such forethought as would materially lessen the amount of necessary labor. Sometimes it is for the want of it that we do the wrong thing first; at others we multiply our work by deferring it until the proverbial nine stitches must be taken, whereas one might have answered at the right time. But the most serious evil arising from it is forgetfulness, which is, I am convinced, the nearest akin to it of all the minor vices.

There is one channel that escapes our proper consideration, partly from force of circumstances and partly through ignorance: that is in the construction of our houses with a view to saving steps for those who will have the care of it .-Every plan of a house should be submitted to the approval of a skilful housewife, who would soon discover when the distance between different points which call for constant communication might be reduced to the shortest possible lines; and that pantries, cellar, wood-house, water and kitchen were in the closest possible proximity. Added to these she would insist upon a speaking-tube between the chamber of the mistress and the kitchen,-since, however much she may be obliged or disposed to give her presence there, there are times when such means of communication is invaluable.

The saving of a few steps here and there may seem a trifling matter to persons not given to careful observation, but anyone who will reflect that in the house most journeys have to be re-

peated many times during the day, and each day repeats itself in months, and months in years, and years in a life-time, until the steps that seemed so few at first will have worn out bone and sinew, as well as floors and even stone steps; these latter, together with the shoe-makers' bills, tell a more convincing tale than weary worn-out bodies and premature old age. That much of this wear and tear is needless, I am more and more satisfied the more I give the subject thought and attention. Labor-saving machines, for every conceivable purpose, are brought to our doors, and many persons procure them out of the most straitened resources, who, at the same time, leave that best of laborsaving machinery, their own mother-wit, lying The quaint saying with which I have headed this article was often on the lips of an old colored cook of mine, and as it seemed in her case to have overcome the innate propensity to depend upon heels instead of head so characterestic of her race, I have great hopes that it may fasten itself in the more favorable brainsoil of some of the "sisterhood," and bear good and abundant fruit. CERES.

# Making Home Congenial.

BY MRS. J. B. MOORE BRISTOR.

Every child in a family is as thoroughly individual in character as a grown person. He has his tastes, peculiarities and weaknesses as surely as his father or mother. He ought to be made feel that his parents are his best earthly friends; that they have his highest good in view in all that they do, and their effort should be to make home the most pleasant place on earth. Improvement should be combined with amusement. Where children love music, entertainments can be formed by the aid of neighboring young people, which will be profitable. I was once in Cumberland, Maryland, in the house of a wealthy banker, where I was surprised and delighted by the beauty and variety of some hundreds of fine stereoscopic views of scenery. They were taken in a number of different States, but I saw no name of photographer or printer on the back.

The banker's son, a young man of large wealth, then told me he had for years employed his leisure time in taking views of beautiful scenery around Cumberland; and when in New York buying materials, his own views had been seen and greatly admired. Persons wished to buy them, and finding that they were not for sale, but had been taken for personal amusement, other young men of wealth bought instruments for taking these views, and formed themselves into a club each binding himself to take a certain number per year and to share with as well as receive those taken by other members. an elevating, refining occupation! Would that the aims and tastes of our American youth were above the low level of tobacco, cigars and drinks! In some neighborhood families and schools, elocutionary clubs or societies are formed, and pieces of prose or poetry, tragic and humorous, chosen and recited from the different pamphlet numbers of Garret's excellent "Hundred Choice

Selections in Poetry and Prose." There are about eighteen of the series already issued, and they are far the best of all I have seen, in good type and well selected. In Philadelphia they are largely used and quoted in evening entertainments, temperance and debating societies. All that refines and elevates our children tends to keep them from temptation and vice.

Don't be afraid to have a collection of birds' nests, eggs, preserved insects, &c., if your boy's or girl's taste is in that direction. Better make home pleasant to boys and girls than have them

forced to go elsewhere.

# Recipes.

Fire kindlers: Melt three pounds of rosin in a quart of tar, and stir in as much sawdust and pulverized charcoal as you can, and then spread the mass upon a board till cool, and then break It into lumps as big as your thumb. You can light it with a match and it will light a fire, for it burns with a strong blaze. It is economical of time and money. It may cost three shillings and save ten shillings worth of wood.

A dozen eggs of average size weigh about one pound six ounces. Meats are about three-fourths water, and milk as it comes from the cow over ninety per cent. Some one adds, how is it when it comes from the milk men?

A pound of crushed wheat, properly cooked, is worth four pounds of bread. Beans and peas afford the most nourishment for the least

Excellent soft soap may be made by putting one pound of the Pennsylvania Salt Manufacturing Company's saponifier to four and a half or five pounds of fat or tallow. Boil until the mass gets transparent and all the fat has disappeared. Now add fifteen gallons of water, boil a few minutes, and the soap will be ready for use. As soon as cold it will be a perfect jelly. If still too thick add more water, which can be done to make the soap any consistency desired. Twenty-five gallons of good soft soap can be made in this way out of one pound of the concentrated lye or saponifier.

To two quarts of Indian meal add boiling water enough to wet the same; when sufficiently cooled add one teaspoonful of salt, half a pint of yeast, one teaspoonful of saleratus, one-half a teacup full of molasses, and flour enough to form it into a loaf; (do not knead hard;) when light bake two hours in a well-heated oven. Bake until brown.

In making jellies, it is best not to add the sugar to the juice until the latter is sufficiently cooked; and then leave it on the fire only long enough for the sugar to become thoroughly dissolved, as will be seen by the transparency of the jelly. I usually leave it until it begins fairly to boil again.

When you pour the jelly into the glasses, set them on a wet cloth folded two or three thick-nesses; this will prevent all danger of their cracking. The same precaution is all that is necessary in canning fruit in glass jars

Will those who have good receipts for domestic wines please give them to the Home Depart-

# Pleuro-Pneumonia in Maryland.

So far, no systematic effort seems to have been made by the governor, to whose hands is committed by the law the entire control of the subject, for the extirpation of this pest among cattle. Several temporary local inspectors have been appointed, and one herd, as heretofore noticed, has been destroyed,-that of Mr. Gallup, of Harford. The disease this season seems somewhat less violent and widespread than is usual, which is a favorable condition for its eradication; but that it does exist in many quarters cannot be gainsaid by any who have given the subject any attention.

The Westminster Advocate reports that the disease among Mr. Henry Drexle's cattle, near Carrollton, has abated, and that Mr. Geo. A. Shoemaker, of Taneytown, has treated 26 head, losing only one, with a compound which is not described, which he gave his own cattle when affected three years ago.

Dr. P. R. Courtenay, veterinary surgeon in Frederick City, Md., writes the Baitimore Sun that contagious pleuro-pneumonia is now in the vicinity of that place. He says:

"I was called upon June 26 to hold a post mortem examination on a heifer, the property of Mr. Worman, which died Friday evening. On opening this animal I found it a clear case of lung plague. The cavities of the chest were full of a muddy fluid, in which pieces of detached lung were floating; the right lung partly diseased, but not adhering to the sides. On examination of left lung found that organ perfectly consolidated into a hard mass. On making an incision through the lung found it to have the appearance of marble and adhering to the costal pleura of the ribs. There was also considerable quantities of purulent, thick, offensive pus. There have been other lots of cattle diseased in this part of the country at various times and locations, one party having lost 11 or 12 head in two months in the past winter. It is very certain that contagious pleuro-pneumonia does exist and has existed in Frederick county for some time past.'

It will be seen from the report of the proceedings of the Baltimore County Grange, that some of the dairy farmers find much fault with the plenary power supposed to be given the local inspectors. It is not understood that there is any objection to the individuals, so far, acting in that capacity, but to the wide opportunity afforded such as are not skilful and educated veterinarians, to interfere with the business and destroy the property of individuals. The grange applied to the governor to appoint an unpaid commission of farmers to oversee the whole



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# BALTIMORE, JULY 1, 1880.

THE AMERICAN VETERINARY COLLEGE .-We have received the annual announcement for 1880 and '81 of this institution, now the only one of its kind in the United States, and doing, under its efficient management, a good work for veterinary art. A number of improvements have been made in its methods and resources for the current year, and any who are interested are advised to apply to Dr. Lieutard, the Dean of Faculty, for a copy of the circular just issued.

THE BLATCHLEY PUMP, made by C. G. Blatchley, of Philadelphia, has gained a great reputation for itself, which is attested by the tens of thousands which in every section of the country have superseded the old-timed sweep and windlass. As a labor-saver it deserves highest commendation. See advertisement.

THE BICKFORD AND HUFFMAN DRILL .- The merits of this old-established and well-tried favorite, which has stood the tests of so many seedings, are set forth in the advertisement elsewhere of the General Southern Agent, Col. H. P. Underhill. The product of practical and skilful mechanics, it is constantly under supervision, on the alert for the discovery of room for new improvements, and for the season of 1880 several small but not unimportant changes have been made in its parts, which add to its efficiency.

LILLY'S BUTTER-WORKER.-From our inspection of this machine, we believe it to be one of the most efficient ever produced, and our judgment of its work seems fully borne out by the awards made it by discriminating juries at the Dairy Shows. Mr. Triebels, of Philadelphia, advertises it in the Farmer.

# The Cecil Co. Farmers' Club.

This association comprises some sixteen intelligent and successful farmers,-located between Perryville, on the Susquehanna, and the western border of the county,-most of whom follow a system of mixed husbandry, some giving prominence to feeding cattle, others to dairying, and all raising considerable quantities of the high quality hay for which Cecil is noted in the markets of Philadelphia and Baltimore. A ride among their farms showed not only that the lands they cultivate, with evident profit and satisfaction, are naturally of superior fertility, but that a degree of care and neatness abounds not always to be seen, following in this respect the custom of their neighbors on the Pennsylvania side of the much-heard-of Mason and Dixon's line. The advantages of this section as regards markets are very marked, two great cities being within easy reach, and with abundant provision for transportation. The face of the country is undulating, giving rise to numerous springs of the purest and softest water; the soil is naturally adapted to grass, and the nutritious native sorts make the most excellent pasture which can be secured for beeves and sheep.

Milk and butter dairying, the raising of lambs for market, fattening cattle, are all made to combine with the usual hay and grain crops; and a new offset in the way of tobacco-growing has been made, the product of the weed being larger than ever before. A considerable number of fine cattle and sheep are kept, including some Short horns of excellent form and pedigree. Mr. Wm. J. Preston has some heifers of great promise, and a bull of superb proportions-Dun Glen Prince, 19,652, by Prince Alfred, out of Zieca, of deep red color, bred by John Dun, of London, Ohio.

The club's meeting for June was held at Mr. Adam R. Magraw's, West Nottingham. The farm of this gentleman lies very handsomely, and is cultivated with reference to the requirements of a large butter dairy which it maintains. It is handsomely improved by a spacious dwelling, roomy and convenient barn, tobacco-house, pig pens and other out-buildings. The dairy is a model structure for its purposes, being built over a spring and divided into rooms for setting the milk and cream and for churning and printing the butter, the average production of which is now about 220 fbs. per week. This summer, unfortunately, owing to the want of ice and to the failure on part of the spring, the butter is made at a great disadvantage, and but for the fact that Mr. Magraw has the services of an educated and trained butter-maker, of long experience in that specialty in Denmark, and whom he brought over to manage his dairy, the quality could scarcely be kept up to the high standard which he sets up. By the careful manipulations of this skilful worker, however, the product is of pure waxy texture, fine in grain, and of color and taste hard to equal. It is sent mainly to Baltimore, where our most exacting restaurants and private families receive it regularly.

Mr. Magraw's cattle are throroughbred Jerseys and some grades, the increase of the former being sold or raised for dairy purposes, as the circumstances demand. A number of favorite butter strains enter into the composition of the herd, which includes many animals of great beauty and satisfactory performance,—a daily record being kept of the yield by weight of each

cow at every milking.

The club organized, in the absence of the officers, by appointing Hy. S. Coudon chairman, and Geo. Gillespie secretary.

Mr. L. Balderston reported success in subduing the Sodom Apple weed by keeping the tops cut off. Mr. Wm. Cooley reported that his wheat plowed in with a two-horse plow looked better than that plowed in shallow.

Mr. Magraw read a newspaper article on the cost of the production of wheat on the "bonanza farms" of the Northwest, which elicited a general discussion, the prevailing opinion being that the system was one not likely to last long, but break down by its own weight, under the social influences always operating in this country. That if it could succeed, the results would be as disastrous to the farmer of our own land as unfortunate for those of Great Britain.

Dr. Bromwell and Mr. Hy. S. Coudon reported their experiences with the army worm, and expressed their belief that its visitation was about

over for the present season.

The Club and the visitors joined in a journey of inspection over the farm and buildings, and upon its completion reassembled on the broad piazza of the dwelling, where criticisms were invoked. There were few of these that were unfavorable, though there was a disposition on the part of some of the Club, who are mostly feeders of cattle for beef, to object to the Jerseys which make up the host's herd, which all admitted, however, though smaller than their favorite Short-horns, made good returns in the quantity and quality of butter produced.

One member suggested that for a farmer's garden there was too much handwork required in the production of the fruits and vegetables,

which the use of the plow would render unnecessary. Mr. Magraw admitted this, but said the garden, in its old-fashioned squares, was as it came to him, and that he intended so changing it that it may be cultivated by horse-power.

ing it that it may be cultivated by horse-power. A discussion of the management of hedges brought out as the general sense of the meeting that the best management of the Osage orange was by pruning two or three times a year,—the easiest plan being to use a scythe, with which a man after practice becomes very expert. It was recommended to plant in single rows, six or eight inches apart, and to "lay" the plants after they had made three years growth.

A debate on the advantages of fall or winter as compared with spring plowing established the customary difference of views and practice, some of the members inclining to winter plowing as best for land and crop; others preferring to plant immediately after plowing in the spring.

# The Deer Creek Farmers' Club.

This club, with the discussions of which our readers are familiar, thanks to the energy of Mr. F. W. Baker of the Belair £gis, who attends all its meetings, and whose excellent reports are adopted as its official minutes, met on the 19th ultimo, at the Hon. James D. Watters', who had hospitably invited us to be present. The meeting falling in the very thickest of the wheat harvest, and on Saturday, when there is so much work to be finished up to avoid risk of casualties on Sunday, was an unusually small one,—there being a number of absentees out of the total membership of twenty. This did not serve, however, to abate the interest shown in the proceedings, a report of which we annex.

Judge Watters is an enthusiastic farmer, who finds relaxation and pleasant change from the severe exactions of the bench in the improvement of his lands, the production of profitable crops, and the breeding of fine stock. This season his fields of wheat and oats were thought by the members of the club to be the best in the neighborhood, and they complimented, as they deserved, his well-shaped Southdowns and the promising Short-horns, which make the nucleus of a fine herd.

There are few tracts of finer farming lands than those in the Deer Creek region. The soil, naturally of a kind disposition, has been improved by judicious cultivation, and on every side are to be seen the evidences of prospering and remunerative agriculture.

A specialty with the many farmers in this region is the feeding of cattle, for which they are conveniently situated as regards markets, natural meadows and water supply. Good stock abounds and is becoming every year more com-

mon. Already very respectable foundations for Short-horn herds exist. Judge Watters, Judge Stump, the Messrs. Lees, Hays, Janney, Silver, and others, each owning some very creditable exemplars of that favorite race.

On the club coming to order, a committee, as usual, was appointed, consisting of Messrs. Ball, B. Silver, Jr., and Archer, who, with most of the other members and the guests present, examined the premises and reported to the club, through Mr. Ball, chairman, the result of their observations. The committee expressed the pleasure they took in reporting upon a farm upon which so much improvement had been made. They examined everything with a critical eye, admired the fine specimens of pure Southdown sheep, the broad-backed Short-horn cattle, the fine young stock, &c. Judge Watters' field of corn looked well for this season; his oats are better than the committee expected to see, and his field of wheat, just harvested, the committee had not seen equalled anywhere .-Everything about the farm looked prosperous, and they knew of no farm that had been more improved than this one.

The question appointed for consideration was "Farm Labor; how much to employ, how to

employ it and how to manage it."

Judge Watters said that in discussing the question of farm labor they were getting very near the foundation of successful farming. Money invested in real estate paid a smaller interest than in anything recognized as a secure investment. Three per cent. he regarded as the maximum amount that could be realized from landed investments, unless the man works the land himself. All over that amount is due to the labor put upon it and should be credited to the labor. In farming for profit, therefore, no question is so important as that of labor, considered in all its branches. As far as the individual is concerned, he had nothing to say against the 'gentleman farmer." He is generally a harmless person, and may be an ornament to society. But he disliked the term "gentleman farmer. It implied that laboring with one's hands is ungentlemanly. You never hear of a "gentle-man lawyer," or a "gentleman doctor." Every farmer, whether he directs or labors with his own hands, ought to be a gentleman. There is nothing in his occupation that prevents him from being one. Every farmer ought to understand practically how to work his farm, and know what a day's work is. The question of the amount of labor a man should employ is merely relative. A man could make his own living by working ten acres, or even five acres. But a man should do more than that. He should not only first take care of himself and those dependent upon him, but he should endeavor to be useful outside his own family, to his neighborhood and to the community. He should endeavor to work his land to its utmost capacity and employ as much labor as he can make pro-He should employ enough hands by the year to keep his work ahead, and only employ day hands at harvest and other extra times. Then when slack times come there are many things which he can have attended to which it

would not pay to hire hands by the day to do. The number of hands which a farm of 100, 200 or 300 acres will carry depends upon many different things. An article from the Country Gentleman, published in The Ægis on the 4th of June, met his views exactly. It recommended the employment of married men, who should board themselves. If they choose to live economically they can thereby get the benefit of it. That plan also gives employment to the laborer's family, and relieves the females of the farmer's family of a vast amount of unnecessary drudgery, which makes farm life so objectionable to many. If he were farming extensively he would have houses for the hands to live in and let them board themselves. That idea has not been generally adopted, but it will grow. A manager should avoid mistakes as much as possible, and manage his labor so as to get the very best results from it. He should study the disposition of his hands and treat them fairly and kindly, both as a matter of right and a matter of policy. In matters of minutiæ, trust, as far as you can, the hands you employ. Find as little fault as possible. If the general average of work done is not satisfactory, discharge the hand, and when once discharged let him always be discharged. In hiring hands his rule is to let them set the price themselves. If the price is set too high he does not employ them. It is a bad plan to have a man who thinks he ought to be getting more than he is. As far as prices are concerned, Judge Watters did not see how men could live on less than they are now getting.

George R. Glasgow thought it important to have force enough to keep the work ahead. He also preferred to have families board themselves. Treat your hands kindly and pay them promptly whatever you agree to pay, weekly or monthly. Mr. Glasgow said be had tried boarding hands and allowing them to board themselves, and prefers the latter. As to wages, he was willing to pay first-class hands good wages. He has two hands all the year, and two from early spring until late in the fail. In busy times he

employs extra hands.

John Moores said Judge Watters had so thoroughly ventilated the subject that very little besides was left to say. As to the amount of labor, two hands are enough to employ on a 100 acre farm. It is a good fault to have plenty of hands, but the number depends upon the condition of the farm. If you have ditching, grubbing and fencing to do you must have more hands than if those things are not needed.— Every farmer should hire a boy and educate him to labor on the farm. He cannot get along without two or three boys on his farm. If we took the trouble to educate boys as farmers we would have better hands. Hands should be treated kindly and paid promptly. If he was farming for fun he would let his hands board themselves. If for profit he would board them himself. The profits of farming are so small that farmers will do better by boarding their hands. Feed them well, pay them well and keep them in good humor.

James H. Ball mentioned some of the diffculties in hands boarding themselves. Some of them have no wives and they must have homes. One advantage in having hands in the house is that when you want them you can call them. He agreed with Judge Watters that it is right to employ all the help we can use profitably. We have the poor always with us, and there is a class who cannot take care of themselves. It is the duty of those with means and business capacity to furnish them employment as far as

they can make it pay.

Wm. Munnikhuysen said he would always like to have one hand, at least, to board with him, but if he employed a large force he would not have more than two in the house. It is more profitable to board hands yourself, but it is heavy work for the females of the household. It is certainly more convenient to board hands, as you often want to make changes in the work in the middle of the day. It is as cheap to hire hands by the year or for eight or nine months as by the day. You can make them pay their wages by doing odd jobs. Pay them all they are worth, and pay them promptly.

R. Harris Archer said that in managing hands, when you put a man to do anything and afterwards think it wrong, if it is a small job do not stop him, or he may lose confidence in your judgment. You should not overestimate the capacity of a hand. If he can only pick up stone, do not let him hook up a horse and go to mill. Bad management he regarded as the cause of many acidents. He agreed with Judge Watters about boarding hands. On the Eastern Shore farmers hire hands by the month and allow them so many pounds of bacon, flour, sugar, &c., or give them orders to the store, and pay them besides. This plan works well and often prevents their families from suffering.

W. F. Hays said he employs hands who board themselves. Has boarded the men and finds that the other plan pays better. He hires good hands, pays good wages, and never puts a hand to do a job if he does not know how to do it.

Thomas A. Hays agreed with Judge Watters, Messrs. Moores and Archer, except as to boarding men. It is decidedly best to let hands board themselves, and better for the females of their families, because that way employs them also. There should be one, man about the house. Hire good hands and pay a good price.

ouse. Hire good hands and pay a good price, George E. Silver finds it cheaper to hire by the month than by the day. It gives the laborers better employment, and farmers have an opportunity to do many jobs which would be neglected if day labor only were employed. The amount of labor depends upon how a farm is managed. A grazing farm does not require so much help as one that is cropped altogether. We might crop entirely and employ more hands, but as we are farming to make money would it be right to do that? He thought more could be made by grazing and raising stock than by cropping, and would continue that course, although he employed less labor. Get good hands and pay them well. He did not see how men could live on much less than they are now getting, and did not see, also, how farmers could afford to pay more. It is desirable to let them board themselves or have a house near your own house; hire a cook for them and let them board there. You might make more by boarding them in your own house, but it makes too much drudgery for the women, and he did not want to make anything by boarding hands. Pay them what their board is worth, at reasonable rates, and let them board themselves.

Benj. Silver, Jr., Secretary, said he felt like the boy whose father took the last piece of meat out of the barrel and told him he could have what was left. There was nothing left for him to say. He would nire men with brains and intelligence in preference to men with muscle and no brains, as the former could manage the work better. He did not believe in bands boarding themselves .-If you have hands in the house they can clean their horses and get ready for the field before breakfast. If they live at a distance, they lose time coming to the barn and returning home to their breakfast; or if they do not come until they get their breakfast, it makes them late in starting for the field. Next year he intended to have quarters for his hands, have a cook and deal out provisions for them. He prefers colored help, not that they work better, but you cannot get enough white men. He would not be without a boy on the place. He likes to be with the men at work, but when obliged to be absent he selects the most intelligent, and lets him direct the others. It is better to hire by the month .-You will always find plenty to do on rainy days.

James Lee (President) said he was opposed to employing boys. He boards the hands himself,

so as to have them convenient.

Messrs. Ball and Moores thought that men who board with their employer fare better and can do more work. Mr. Geo. Silver did not agree with this proposition.

Judge Watters remarked that the plan of dealing out provisions allowed the hands no opportunity to practice economy, which they might do if they provided for themselves.

The club adjourned to meet at Geo. E. Silver's, July 17th. Subject—"When to sell and how to determine upon the time of selling farm products."

## William Woolsey.

There are few intelligent and reading farmers in Maryland but know by name and reputation this representative of their craft, whose success from very modest beginnings has made him a conspicuous example of what may be accomplished in farming, by thought, perseverance and skillful methods. We had the pleasure last month, by the kindness of Judge Watters, of spending a portion of a day with Mr. Woolsev on his beautiful farm near Churchville, in Harford county. There are few finer estates in this portion of our State, and the neat appearance and productive capacity of the land are in strong contrast with its condition when purchased some thirty-odd years ago by its present owner. Then and for years previously the farm had been almost wholly thrown out of cultivation and had grown up in sedge. Now it is a picture of

fertility and beauty. A handsome and stately house, surrounded by a beautifully-kept lawn, adorned by beds of flowers, vases and ornamental trees; convenient farm buildings for every needful purpose; a barn of immense capacity for storing provender and sheltering the cattle fed every winter; wide stretches of permanent pastures, rich in the short nutritious blue and green grasses, so essential for grazing farms, the sods on some of which have not been turned for from sixteen to over twenty yearsmake a changed scene to what it was when taken hold of by Mr. W., who now counts, as but a fair crop, upon twenty barrels (100 bushels) of shelled corn to the acre, and who has a belief in the possibility of increasing that vield by 50 per cent., as he proposes next season to demonstrate on a field of some twenty-four

The basis of this improvement was in bone, which was applied with a liberal hand,—as much as 2,000 fbs. being put on an acre. Besides this, it was and continues Mr. Woolsey's method to feed everything, except wheat, grown on his farm. The very weeds cut from the fence-rows are passed through the barn-yard. Feeding cattle largely, averaging about eighty head each winter, the immense quantity of rich manure made is of course used with telling effect. Both it and the bone, which is applied in as fine shape as obtainable, are put by preference on the grass lands.

Mr. Woolsey has now a large stock of cattle feeding, including one notable steer, a thoroughbred Short-horn, which he will fatten for Christmas show-beef, and which, weighing now 2,700 fbs., he expects to make balance 3,200 fbs. before he is sold.

Mr. Woolsey, though no longer a young man, maintains an unabated, even a zealous, concern in every department of farming. At the time of our visit he had recently returned from a trip through Chester Co., Pennsylvania, where he had inspected with much interest the practices there adopted. Awake to the importance of progress even with the successes he has achieved, he is prompt to try new plans, and his experience and advice are ever at the command of his younger brethren of the plow. The example of such a career is a great prize to any community.

CORRECTION.—The price of the Southdown Bucks advertised by Mr. Francis Morris was last month put (by an error) at \$15, when it should have been \$10 a head, provided they are not to leave the State!

THE AGRICULTURAL COLLEGE OF SOUTH CAROLINA has been reorganized under the control of the University of that State, and the Hon. Wm. Porcher Miles has been elected its president. Mr. Miles has lately been residing in Nelson county, Virginia, but is a native of South Carolina, and has occupied prominent public positions bestowed upon him by her people. In none, probably, can he have had a more useful career than in that which he now assumes, and for which he possesses peculiar fitness. Our readers doubtless will recognize him as a sometime contributor to the Farmer's pages.

"A Few Things Worth Knowing About Fertilizers."—Under this title Messrs. Wm. Davison & Co. have published a little pamphlet, the illustrated title-page of which is quite a work of art,—giving some valuable information, in a condensed shape, on points concerning which light is sought. It will be sent free to all desiring it, on application.

THE AMERICAN ASSOCIATION OF NURSERY-MEN, FLORISTS AND SEEDSMEN held its fifth annual session on June 16, 17 and 18, with about 150 members present. A number of interesting papers were read on topics relating to the trade and discussed by the members. The officers elected for the coming year are N. H. Albaugh, Tadmer, O., president; D. Wilmot Scott, Galena, Ills., secretary; A. R. Whitney, Franklin Grove, Ills., treasurer; with a vice-president for each State, Territory and Canada.

#### The Crops.

From our correspondence and exchanges we conclude that, though there may be some exceptions, the general result of the wheat crop in this State will be a disappointment. The dry and hot weather in May seemed to have had the result of forwarding the usual date of harvest, and at the same time of diminishing the yield, which from the growth of straw and the healthy appearance of the plant, had promised in most quarters a full average crop in quantity. Now in many cases this will necessarily be subject to a discount of from one-fourth to one-half, whilst many complaints exist of the inferior quality of the grain, much of which is small and sirrunken.

The early grass crops suffered severely by drought, and clover will be short. Timothy, in most cases, has recovered, thanks to the rains, but cannot make a full crop, or near it. Corn gener-

ally is backward, and there was much trouble to get a stand. Tobacco plants were very scarce, and the area planted is thereby much restricted, The peach crop promises to be an average one—quite as large probably as can be handled with profit.

# Celery Culture and Keeping.

The principal essentials in raising and keeping celery are: 1, A mellow, easily worked soil, such as grain, grass or vegetables will grow in handsomely; 2, Old manure, ready to hand; 3, Water conveniently near, to keep growth from lagging; 4, Stout, solid-stemmed plants, which have not been weakened by being started in heat, crowded together, or been checked in their growth by any cause after it began. As to varieties, it is a matter of taste. The dwarfs are most nut-like in flavor, and most easily managed. The red is enduring and handsome and gaining in estimation. Celery does not trans-plant well, yet the setting out must be done in the highest fervor of the summer season. It is best, therefore, to set out enough plants in a litthe bed of good rich soil early, and as near to the rows intended as possible. These should be thrifty and stout for their age; but may be quite small if not stunted by chill, or by want of room or of water. They are best carried in a pan or bucket with the roots in water, and if set in cloudy humid weather will want no shading. They like light, free air, and regular moisture, but no stagnation, or drenching.

Instead of setting out plants thus in June, seed may be planted in the bed in May. Cover thinly and water discreetly. This saves one of the transplantings which are so objectionable to this plant. The first method, however, if done well and timely, is on the whole the best, as it gives a ball of roots and mould for the more serious final planting out in August—on ground, usually, on which some previous crop has been grown. Choose favorable weather—cloudy and with rain in prospect. Take up each ball with a three or four-pronged transplanting fork; it is well to have two, one in each hand. Set in place, draw the mould around, and sprinkie well to prevent any leaves from flagging. Don't put manure in contact with the plant, but throughout the ground, near the surface, and upon it as a mulch.

The stems of celery must be kept together to prevent breaking, and to prevent the earth used in blanching them from getting into the heart. Tin collars about the size of a short (bottomless) tumbler are a great convenience for this, and are best slipped over the plants while they are small. They are easily made from old fruit cans, and can do duty for potting and removing strawberry layers before being wanted for the celery. If slugs or other insects are found to be nibbling at the stems, use saltpetre-water, or solution of parafin, or a tinge of carbolic acid, one spoonful to 100 or 200 of water. After growing this rare crop—which, if well grown and well shown, is so enjoyable and so marketable—there comes up the question of keeping it.

In small culture the row may be covered with leaves or straw, so wide and deep, and so roofed with boards, that neither wet nor frost can touch the plants during winter. But access to them is not always easy in severe weather, when they are so covered, and on a larger scale such covering requires an inordinate amount of labor and material. So, usually, a trench is dug in November, in dry, well-drained ground; the plants are lifted carefully; injured parts and leaves are removed; and they are beded closely together, covered with two barrels nailed together at one edge in roof form, and then the whole covered with soil, with care to exclude moisture andmice, as well as frost.

Where there is sifted ashes in quantity, clean and fresh from the purification of fire, it has been found an excellent material to bed celery in a cellar; where, of course, a mere covering is sufficient, and access is always easy. If the floor is at all damp, the ashes will not dry the stems so far as to shrivel them. They are easily rinsed off as wanted, and the stems come out as bright, as unbitten and as unrusted as they were when stowed away.—Ex.

#### Books Received.

From WM. F. WHEATLEY, Esq., Secretary, Twenty-fifth Annual Report of the Baltimore Corn and Flour Exchange, for the year ending December 31, 1879. This volume contains the President's Report for the year 1879, the act of incorporation and the laws under which the Exchange operates, its By-Laws, List of Members, &c., and a great variety of tables giving in detail the exports of cereals, flour, &c., and other products, prices here and abroad, freights, &c., all of great value as an index of the immense trade of Baltimore and for reference. The work is very handsomely printed, reflecting credit in its arrangement and execution upon the "Price-Current" Job Printing Office, where it was printed. As this is the office from which the American Farmer is issued, it gives us more than usual pleasure to refer to the mechanical perfection of the work,—largely due to the painstaking care and correct taste of Mr. Jonathan W. Scott, the manager, to whom our own readers are every month indebted for the clear and handsomely-printed pages of this publication.

From J. Frank Lewis & Co., we have The Maryland Directory for 1880. This is a very handy and convenient volume, centaining statistics and descriptions of every town and county in the State; lists of the names of farmers, traders and professional men in every community. It is compactly gotten up, and cannot but be very useful to all persons who seek to reach parties in the towns and rural districts of the State.

From Hon. Char. L. Flint, Secretary: Agriculture of Massachusetts for 1879. This is the 27th Annual Report of the Secretary of the Massachusetts State Board of Agriculture, and contains many good things upon which, in the future, we shall probably draw, as we have already done in our last issue. Mr. Flint seems to lose none of his energy or devotion in the cause of agriculture.

#### Heavy Merino Fleeces.

Gen. J no. S. Goe, of Fayette Co., Pa., sends us a list of the weights of the fleeces clipped by him this year from his Merino sheep:

One ram clipped 35 fbs. 8 oz.; one, 32 fbs. 8 oz.; others ranged from 16 fbs. 2 oz. to 21 fbs. 14 oz. One ewe sheared 21 fbs.; another, 20 fbs. 10 oz.; others went from 14 fbs. up to 19 fbs. 3 oz. Most of the sheep were yearlings, with a few two years old, and one aged ram.

#### The Hessian Fly.

Dr. Packard recommends the following preventive measures against this destructive insect:

1. It is advised to sow a part of the wheat early, and if affected by the fly to put in the rest of the seed after September 20, which will, in most cases, save the crop. By destroying the first brood the second will not appear.

2. Partially affected wheat may be saved by the use of fertilizers and careful cultivation; and, if winter wheat, the fields may be recuperated

in spring.

3. It is stated that many of the eggs, larvæ and flaxseeds may be destroyed by pasturing with sheep, and close cropping of winter wheat in November or early in December. Rolling the ground will answer nearly as well.

4. It is advised to sow hardy varieties of wheat, especially those which tiller vigorously. Diehl for early August sowing and Clawson for late; Underhill Mediterranean is also mentioned for fly-infested regions.

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### Baltimore Markets-July 1.

Breadstuffs,—Flour—We report the market quiet land nominally steady at quotations. Receipts very dight. We quote: Howard Street "uper \$2.75@3.50; do. do. Extra \$3.75@4.75; do. do. Family \$5@5.75; Western Super \$2.75@3.50; do. do. Extra \$3.75@4.75; do. Family \$5@5.75; City Mills Super \$2.03.51; do. do. Extra \$4.6.50; do. do. Family \$5.03.55; do. do. Bettra \$4.6.50; do. do. Rio brar ds Extra \$4.6.25; Winter Wh-at Patent \$6.22@6.75; Sprirg Wheat Family \$5.03.55; Minnesota Patent \$6.25@5.75; Sprirg Wheat Family \$5.03.55; Minnesota Patent \$6.25@5.75; Sprirg Wheat Family \$7.10; do. Extra \$6.50; Chesapeake Extra \$6.70; Orange Grove do. \$6.50; Fine \$2.25@2.50; Rye Flour \$4.75@5.

Wheat.—Southern was dull. Western was irregular and unsettled, though it closed firm. We quote: No. 2 red. cash. \$1.15@1.15%; do. do. July \$1.10@112%; do. do. August. \$1.07%[30].17;

Corm.—No business in Southern. Western was quiet but steady. We quote: Western mixed cish 49% cts.; do. do. June 49%; do. do. September 49%; do. do. steamer cash 45%; Southern white 56@57; do. yellow 52.

Oats —Market less active and rather easier. We quote: Western mixed 23%(23%; do. bright 34@5%.

Bye.—We quote nominally good to prime at 85@87 cts. Pbus.

Mills Feed.—City we quote at \$1.7 for middlings. Breadstuffs .- Flour-We report the market quiet

Rye.—We quote nominally good to prime at 85@87 cts. V bus

Mill Feed.—City we quote at \$17 for middlings, and \$18 for brownstoff, with the market steady though dull, and Western bran nominal at about \$15 v tos.

Hay and Straw.—Bay continues sorce, firm and in active demand, and Straw steady and firm. We quote: Choice Cecil County Timothy, \$22@23; fair to prime Md. and Fa. Timothy, \$12@23; Mixed Hay, \$18@20.00; Clover Hay, \$17@39; Wheat Straw, \$11; Oat do., \$12@14; Hye do., \$22.

Provisions.—There is no change to note in the market and we report it steady, with the order trade fairly active. We quote: Bulk Shoulders, packed. 5%;

do. L. C. Sides, 7%; do. C. R. Sides, 7%; Bacon Shoulders, 8; do. C. R. Sides, 8%; do. Hams, sugar-cured, 11%@12%; do. Shoulders, do., 6%@7; do. Breasts, do., 8%@8; Lard, Reflued tierces, 8%; Mess Pork, new, \$\psi\$ bri., \$13.50; Extra Prime do., \$10.75.

Butter .- Receipts continue light, but the market slow, though prices are nominally maintained. We quote: Western choice fresh grass, 14@10; do do good to prime, 11@12; New York State, choice, 18@20; Creamery, choice, 20@23; Nearby receipts, 10@13.

Cheese.—We quote, with the market dull, viz: New York State, new, choice, 12%; do do. do. good to prime, 11%(a)12: Western, new, choice, 11a/11%; do. do good to prime, 9% (a 10%.

Eggs. : rices droop. We quote fresh at 11 cts. for Western, and 12@12% cts. for near-by P dozen, with the market dull.

Poultry. We quote as follows for live, viz: Chickens at 9@10 cts. for old, 16@18 cts. for young F ib., and Ducks at \$3 F dozen.

Domestic Dried Fruits.-We quote as viz: Apples, sliccd, 6&9 cts: do quarters, 6@7 cts.; Peaches, unpecled quarters, 5@6 cts.; do, halves, 65@7 cts.; Peaches, unpecled quarters, 5@6 cts.; do, prime to fanc, 1?@15 cts: Whortleberries, 9@10 cts: Blackber-ries, 11@12 cts.; Rsspberries, 25@ 26 cts.; Cherries, pit-ted, new, 1?@18 cts. V fb.

Rice. - Carolina is quiet and nominally steady at 6% Rice.—Carolina is quiet and nominally steady at the gold of the for good to prime, and we quote Hangoon as before at 3½.@34 cts in bond, and 6 cts. Fib. duty paid. Cotion.—We quote as follows, with the limited stock here held pretty firmly, viz: Middling, 11½; low middling, 11½, good ordinary 10 cts.
Wool.—We quote: Good unwashed, 2:@31; tub washed, 42; pulled, 36@40; Merino, 25@28; burry, 22@

Miscellaneous Produce.—We quote: Apples, 21.50: Reans. N. Y. medium. F bus., 81.40@ new, F brl., \$1.50; Beans, N. Y. medium, F bus., \$1.40@ \$1.45; Peas, black-eyed, F bus., 70; Peas, Acstern green, F bus., \$1.65@1.75; Potatoes, new, F brl., \$1.75; 80. old. V bus. 40250; Onlons, V bri., \$3.40; Becswar, V b., \$1(222); Hides, dry country, V b., 17(218; Seneca Root, V b., 45(247; Virginia Snake, V b., 30(225; Sheep's Polts, cach, 55(25; Srephers, V b., 30(25).

Tobacco.—Maryland leaf was in active demand the past week, and all desirable samples found quick sale at full prices. We quote: Maryland, inferior and frosted, \$2.50(a); do, sound common, \$3.50(a).50; do, good do., \$5.60,50; do, middling \$6.60; do, good to fine red \$3.50(a). \$10; do fancy \$11@15; do ground leaves, new \$1.50@ \$8; Virginia, common and good lugs, \$3@5; do common to medium leaf \$6@8; do. fair to good leaf \$8@10; do. selections \$12@16; do. stems, common to fine, \$1.51@2.

selections \$126,16; do. stems, common to fine, \$1.56,62.

Live Stock.—Beef Cattle—No activity in the market. We quote: Best beeves \$56,50; first quality \$46,\$5; medium or good fair quality \$3.25(3).59; rorinary thin steers, oxen and cows, \$2.5(3); extreme range of prices \$2.75(3)5.50; most sales were from (¥100 lbs.) \$1.50 (38.5). The state of the state

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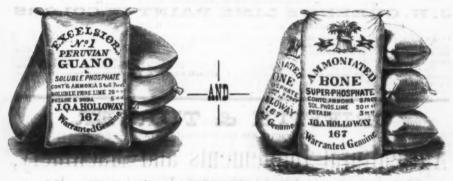
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The above are the most concentrated FERTILIZERS ever offered to the farmers and planters—combining all the stimulating qualities of Peruvian Guano, and the ever-durable fertilizing properties of Bones, in fine; dry powder, prepared expressly for drilling,—it is the universal opinion of the farmers of Maryland and Virginia, after over twenty years experience in the use of the EXCELSIOR manufactured by me, in growing Wheat, that an application of 100 pounds is equal in its effects to 200 pounds of any other Fertilizer or Guano, therefore fully 50 per cent. cheaper.

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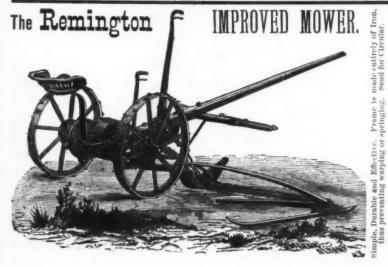
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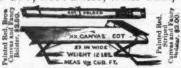
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Put a man at the wash-tub, let him get heated from the hot suds until every pore is opened, then let him stand over the flithy steam that comes from scalding and beiling clothes, that are full of sweat and exhalations from the skin, and his health certainly would break down before long; and yet this terrible orden is exactly what

has to go through on wash-day; and besides, with her clothing wet from perspiration at the hot work, she has to risk her life by going out in the air to hang up the clothes. Even those not at the work are in the unhealthy atmosphere; its smell, so apparent to visitors, showing that it finds its way through the house,—the family, however, often becoming so accustomed to the peculiar odor from its own wash as not to notice it.

These facts, which are known to be true by every housekeeper, readily explain why so many women suffer with Rheumatism, Weak Nervesor Neuralgia, and

while yet young in years; and Physicians and Boards of Health cannot draw attention too strongly to the injuri-ous effects of the usual way of washing, with its necessary steam and scalding or boiling to get the clothes pure and sweet-emelling, especially as it is often the direct cause of those dreadful diseases. Diphtheria, Typhoid Fever and Consumption. Fortunately this trouble can be avoided; scalding, boiling and steam done away with; clothes made sweet and beautifully white; from the saving in fuel, the wash done at a less cost than when home, made Saan is used, and very much made sweet and beautifully white; from the saving when home-made Soap is used, and very much

by the old way, by using FRANK SIDDALLS SOAP,—a Soap so Purifying and Cleausing that the dirtiest clothing can be washed in lukewarm water, with very little rubbing, and Clothes. Bedding and utensils used by the sick disinfected and cleansed without either scalding or bolling; while the work is so light that a girl of 12 or 13 can do a large wash without being tired; and yet so mild and healing is this Soap, that for toilet and shaving It has no equal, and physicians advise its use in preference to imported Castile Soap on wounds and sores and to

It has no equal, and payments which wash the youngest infants.

Now that there is a remedy for this "great wash-day evil" so economical in its use as to be within the reach of the poorest, there is not a women or

who is not directly interested in having used in their homes THAT WONDERFUL SOAP, which, when properly tried, not only does away with the hard work, offensive smell and fearful steam on wash-days, but makes the white pieces whiter, colored pieces brighter and flanuels softer than they can be made by washing the old way, and also leaves every article as clean, as sweet and as pure as if never worn.

#### NEARBY TESTIMONIALS.

From General William Craig, of Morning Herald; residence, 226 Lauvale Street:

After a thorough trial of FRASK SIDDALLS SOAP in my house it is pronounced the best we have ever used. It saves an immense amount of labor and economizes the consumption of fuel to a large extent, and hereafter we shall use no other.

after we shall use no other.

From Manager of Dexier Laundry, Washington, D. C.; 301 Sixth St., corner C St., N. W.:

No laundry or family can afford to be without FRANK SIDDALLS SOAP. We never scald or boil, and
use no other Soap, and have a reputation second to no laundry in Washington for white clothes,—the superior
work we have been enabled to turn out having secured us the trade of some of the best gentlemen's furnishing stores in the city.

### Sold by Retail and Wholesale Crocers.

To points where not yet introduced, a trial cake will be forwarded to any part of the United States, postprepaid, on receipt of price, (10 cts.,) in money or stamps. Address all letters

Office FRANK SIDDALLS SOAP, 718 Callowhill St., Phila., Pa.

Just think what you will save by this easy way of Washing! Get a Cake and Try it for Yourself Next Wash-day.



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Dear Sir—I have just completed a large cistern with the **Selenitic Cement**, and it gives perfect satisfaction. Yours truly, L. H. CUTLER.

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Sole Agent for the great BELLE CITY FEED CUTTER, "Boss of the World," for Fodder, Hay and Straw. Cuts 4 lengths, from 1/2 to 2 inches. Will cut one ton in 30 minutes. SEND FOR CIRCULAR.

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WILL NOT EXPLODE.

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COWS, HEIFERS, and CALVES. All Herd-Book Animals.

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Valuable insecticide for the extermination of the Colorado Beetle, Cotton Worm and Canker Worm. For prices, circulars and opinions, write to HEMINGWAY'S LONDON PURPLE COMPANY, Limited, 90 Water Street, New York.

Professor C. V. Riley says London Purple can be more effectually sprinkled or sprayed on to the plant than

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Window Sashes, Doors, Blinds, Monldings, Brackets, Hand Raillings, Balusters, Newel Posts, Bracket Shelves, Barge Boards, Window Caps, Door Caps, Pews and Church Work, Blind Hinges, Buildars' Hardware, Wood Mantels, Window Frames, Door Frames, Paints, Oil, Putty, Glass, Lumber, Bricks, Lime, Sash Weights, Sash Cord, Porch Columns, Tree Boxes.

THE BEST WORK AT LOWEST PRICES.

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From Mr. J. D. Guthrie, of Shelby county, Ky., State Grange Purchasing Agent, and famous grower of Long-Wooled Sheep.

MESSRS. M'GINNIS, TAYLOR & HOLDERBY:

GENTLEMEN-In reply to your request for my opinion, I take pleasure in saying the M'Ginnis Harrow has given universal satisfaction.

SHELBYVILLE, Ky., May 6th, 1878.

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It pulverizes deeply, and its smoothing capacity is equal to any Harrow I have ever tried. It stands unrivaled for destroying the toughest sods with its knife-like teeth, perfectly reducing the sod with two harrowings, presenting a thorough seed-bed for any kind of grain or seed.

Its draft is much lighter than the ordinary Harrow.

It is equal to th: Thomas Harrow in lightness of draft, while it possesses decided advantages over the Thomas in DEEP PULVERIZATION, STRENGTH AND DURABILITY. I have said thus much from observation of its working on the field.

While the Thomas Harrow is better adapted for the shallow covering necessary for very small seeds, for general purposes I think the M'Ginnis Patent is WITHOUT A RIVAL. J. D. GUTHRIE.

#### GILPIN'S VEGETABLE LIVER PILLS

Yours truly,

Are prepared, with great care, from medical plants, are coated with sugar that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver—thereby relieving all such diseases as Costiveness, Headache, Paralysis, Dyspersia, Colds, Jaundice, and all diseases of a Billous origin. No better evidence can be offered in favor of these Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

DR. GILPIN—After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say, that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them not only to my patients, but the entire medical profession.

From one of the leading retail denominate of West Viscinia.

From one of the leading retail denominate of West Viscinia.

From one of the leading retail druggists of West Virginia:

MESTON, W. VA., June 18, 1869.

F. M. CHALFANT.

We could fill several pages with certificates, &c., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit—knowing that wherever they are known their use will pass down from generation to generation.

GILPIN'S VEGETABLE LIVER PILLS are sold by all respectable Druggists and Country Store
keepers throughout the United States and Canadas.

keepers throughout the United States and Canadas. Principal Depot: CANBY, GILPIN & CO., Baltimore.

### LAND PLASTER!

Ground from the HARD Windsor Rock, which is 20 per cent. richer in the essential element. Sulphate of Lime, than the soft Plaster (which is used by all mills East.) Send for circular.

Manufacturers' Agent for American and Foreign Cements and Plaster, 61 S. Gay Street, Baltimore.

### FOR SALE!

## A. Few Cotswold Sheep

All Ages, Buck, Ewes and Lambs.

THOS. J. LEA. BRIGHTON, MD.

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SHATTING, PULLEYS AND HANGERS STEAM ENGINES AND BOILERS MIXERS FOR FERTILIZERS AND CHEMICALS

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Who offers for sale upwards of 18,000 acres of land, lying in one of the most desirable regions of Eastern Virginia.

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As Layers, the WHITE LEGHORNS have few supe riors, and are strictly non-Sitters Can furnish them at \$3 per trio, boxed and delivered to railroad. Can furnish

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Strictly pure and reliable. Many imitations, costing 3 cents a gallon, are sold as Cider Vinegar. To guard against deception observe that packages bear our brands. Fresh APOLINARIS WATER.

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All bred from the most noted and fashionable strains of Prize-Winning Stock.

I took first premiums in their classes on Devon Cattle, Leicester and Merino Sheep, Poland-China and Essex Hogs, at Virginia State Fair in 1875 and 1876, besides a large number of Prizes taken at Piedmont and Lynchburg Fairs.
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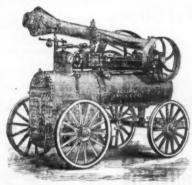
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On account of want of room to properly accommodate them during the winter, I offer a few animals of all ages at greatly reduced prices, if promptly applied for.

A record of thirty premiums (the true test of merit) won this season, in many hotiy-contested rings, in some of which were the first prize and sweepstakes winners at the Canadian, Illinois and St. Louis shows, is sufficient (without further remark) to prove the high quality of my stock. Correspondence solicited before purchasing elsewhere. Representations and safe delivery guaranteed. I have also Bronze Turkeys for sale.

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I am prepared to furnish PIGS of the best blood at the following prices, boxed and delivered to express:

SINGLE PIG. 86.

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DOORS, SASH, BRICKS, &c. IN LOTS TO SUIT.

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FOR SALE—Thoroughbred young Devon Bulls and young Rams of the Shropshire breed; several of the young bulls were stred by the Imported Bull Master James, the winner of several prizes in England; amongst others the first prize given to his class at the show of the Royal Agricultural Society of England, neld at Birmingham in July, 1876. The young Rams were all sired by Inforered Rams, purchased at high figures, from one of the very best flocks in England, and several of them are out of Ewes recently imported from the same flock as the Rams, the others being out of Ewes obtained from the celebrated flock of Mr. T. Conyer, of Waldberg, near Haverstraw, in the State of New York. The young Bulls offered for sale are by Master James, the sire of the Grand Prize Bull Lord Newsham, and Master James himself gained first prize of his class at the Birmingham show of the Royal Agricultural Society of England in 1876. Particulars as to pedigrees, prices, &c., may be obtained by applying to

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Our COLLECTIONS of ORNAMENTAL Trees and Shrubs are large, and embrace most of the

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EST SPECIAL.—60.000 one and two-year old OSAGE ORANGE plants for bedges.

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PURE GROUND RAWBONE, SULPHATE OF LIME, SULPHATE OF AMMONIA. NITRATE OF SODA. SULPHATE OF SODA. MURIATE AND SULPHATE OF POTASH AND GROUND PLASTER.

All PURE Chemicals for mixtures, compounds of formulas for fertilizer mixtures, as low as any house for cash. Write for prices.

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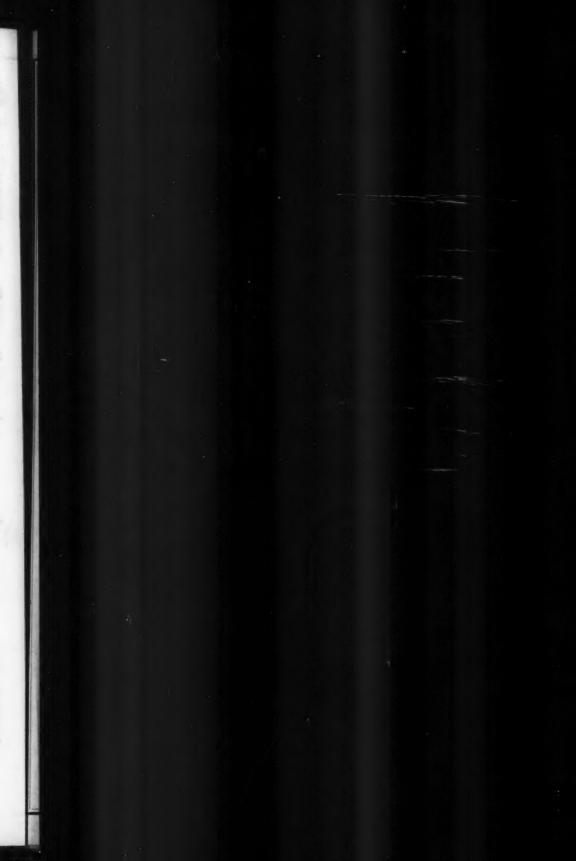
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Entered at the post-office at Baltimore at second-class rates.



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OFFICE, 157 W. Fayette Street.  $BALTIMORE. \left\{ \begin{array}{c} \text{WORKS,} \\ \text{Foot of Leadenhall St.} \end{array} \right.$ 

MANUFACTURERS AND MANIPULATORS OF

## **PHOSPHATES**

We are now offering to the Trade the following WELL-KNOWN BRANDS OF GOODS, which we guarantee fully up to Standard:

SLINGLUFF'S

## DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

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Containing 40 to 44 per cent. Soluble Bone Phosphate.

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Containing 28 to 32 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering SLINGLUFF'S NATIVE SUPER-PHOSPHATE—prepared entirely from Animal Bone—highly ammoniated.

Also, SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE. This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

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Cotton, Tobacco, Corn, Oats, Wheat, &c. works, south baltimore.

Where they have introduced the MOST COMPLETE MACHINERY for compounding Concentrated Fertilizers, that their great experience has enabled them to so successfully introduce to the Planters of the Middle and Southern States.

## SOLUBLE SEA ISLAND GUANO

So well-known and of UNDOUBTED EXCELLENCE.

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A High-Grade Fertilizer of KNOWN MERIT.

## Dissolved Bone Phosphate

Prepared from GROUND ANIMAL BONES.

## ACIDULATED SOUTH CAROLINA and NAVASSA PHOSPHATES

## AMMONIATED ALKALINE PHOSPHATE,

A complete manure, endorsed by the Patrons, who have used it with great satisfaction for the last 5 years, and is on sale by Grange Agents at Baltimore,
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RAW and STEAMED BONES, POTASH SALTS,
And all Fertilizing Materials in Store and for Sale.

SPECIAL COMPOUNDS PREPARED ON ORDERS.

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